

University of Central Florida

**STARS**

---

Electronic Theses and Dissertations, 2020-

---

2023

## Planeswalking: Magic: The Gathering Across Analog and Digital Platforms

Jack Murray

*University of Central Florida*



Part of the [Critical and Cultural Studies Commons](#)

Find similar works at: <https://stars.library.ucf.edu/etd2020>

University of Central Florida Libraries <http://library.ucf.edu>

This Doctoral Dissertation (Open Access) is brought to you for free and open access by STARS. It has been accepted for inclusion in Electronic Theses and Dissertations, 2020- by an authorized administrator of STARS. For more information, please contact [STARS@ucf.edu](mailto:STARS@ucf.edu).

---

### STARS Citation

Murray, Jack, "Planeswalking: Magic: The Gathering Across Analog and Digital Platforms" (2023).

*Electronic Theses and Dissertations, 2020-*. 1793.

<https://stars.library.ucf.edu/etd2020/1793>

PLANESWALKING: *MAGIC: THE GATHERING* ACROSS ANALOG AND DIGITAL  
PLATFORMS

by

JACK MURRAY

B.S. University of Texas at Dallas, 2017

M.A. University of Texas at Dallas, 2019

A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
in the field of Texts and Technology  
in the College of Arts and Humanities  
at the University of Central Florida  
Orlando, Florida

Summer Term  
2023

Major Professor: Anastasia Salter

© 2023 Jack Murray

## ABSTRACT

This dissertation analyzes the relationship between Wizards of the Coast's trading card game *Magic: The Gathering* and its digital adaptations. I used critical technocultural, ludic discourse analysis, and ludic textual analysis to examine the analog trading card game and digital adaptations. I examined an archive of paratextual media including trade magazines, developer blogs, game reviews, and player guides. I chose *Magic* for its long history, impact on the analog game industry, and the sheer number of adaptations that have been produced. This analysis begins by introducing a method for describing analog to digital adaptations called Adaptation Mapping. Adaptation mapping describes adaptations as a relationship between how the interface of the game is remediated and the degree to which a game represents the thematic and ludic experiences of the original. Then I examine the narrative framework that allows *Magic* to tell stories through both its theme and mechanics. Identifying the figure of the Planeswalker as a key component in how narrative functions in *Magic*, I trace the development of the planeswalker as a player analog to independent original characters under the purview of Wizards of the Coast. The adaptations provide a backdrop for this change and highlights the way that the same mechanical and algorithmic systems can characterize both player and official characters within *Magic's* ecosystem. This shift highlights the way that marketing is approached and influences the design of the game. Finally, I examine how digital adaptations are intertwined with ludic platform economy that has emerged through the 2010s. The apparatus that allows for capital to flow through the community is coopted via adaptation and remediated in ways that redirect capital back towards Wizards of the Coast as the platform owner. Analog to digital adaptation is a critical juncture in examining the impact of platformization on play and games.

Dedication: This one's for me.

## ACKNOWLEDGMENTS

This dissertation would not be possible without the countless people who have supported me along the way. I want to begin by giving a huge shout out to the members of the “baby yoda writing group”, Lauren Rouse, Abby Moreshead, and Kendra Gilbertson, who kindly dragged me over the finish line. Thank you to Matt Wilson and Taryn Henry who put up with my panic, exasperation, and other emotions related to the writing process at all hours of the day I would also like to thank Josef Nguyen and Monica Evans at the University of Texas at Dallas who believed in me and showed me that this kind of research is an option. Shout out to Cameron Kunzelman for being more excited about this project than anyone else, giving me access to various issues of *The Duelist*, and working with me so we don’t accidentally scoop each other’s work. Special thanks to Matt Knutson and Jan Švelch for sharing preproduction copies of their essays on *Magic*. I want to also thank the crew at Kraken and Crossroads Swords, Jess, John, and Will in particular, for giving me somewhere to go when not writing. Lastly, thanks to my parents who supported me even if they don’t understand what I’ve been doing and my dog Kiska, who reminded me when it was time to take a break.

## TABLE OF CONTENTS

Chapter 1: INTRODUCTION.....	1
Research Questions.....	2
Platform Studies: Computation, Communities, Components.....	5
Analog Game Studies.....	13
Methodology.....	15
Chapter Summaries.....	19
Chapter 2.....	19
Chapter 3.....	20
Chapter 4.....	20
Chapter 2: Adaptation Mapping.....	22
Introduction.....	22
Defining Adaptation Mapping.....	23
Adaptation, Remediation, and Analog Game Platforms.....	25
Remediation Axis: Immediacy versus Hypermediacy.....	33
Arena, <i>Spell Table</i> , Tabletop Simulator, and Duels of the Planeswalkers.....	34
Ludic and Thematic adaptations.....	43
Chapter 3: “Are you a Planeswalker?”: The Evolving subject positions of <i>Magic: The Gathering</i> ’s Narrative Framework.....	57

Introduction.....	57
Defining the Player through Design Discourse .....	59
<i>Magics</i> Narrative Framework .....	65
Algorithmic Storytelling .....	74
Conclusion .....	91
Chapter 4: Additional Casting Costs: How <i>Magic: The Gathering Arena</i> perfected the Ludic	
Platform Economy .....	95
Introduction.....	95
The Ludic Platform Economy.....	99
Digital Trading Card Games and the Analog Genealogy .....	101
Collectability: Booster Packs and Loot Boxes.....	107
Proxies, Aura, Authenticity.....	120
Conclusion .....	130
Chapter 5: Conclusion.....	
Research Question 1 .....	133
Research Question 2 .....	136
Research Question 3 .....	137
Implications.....	139
Limitations .....	143



Further Research .....	144
References .....	146

## LIST OF ACRONYMS AND ABBREVIATIONS

CTDA	Critical Technocultural Discourse Analysis
D&D	Dungeons and Dragons
LDA	Ludic Discourse Analysis
LTA	Ludo Textual Analysis
MTG	<i>Magic: The Gathering</i>
TCG	Trading Card Game
TTRPG	Tabletop Roleplaying Game
WotC	Wizards of the Coast

## CHAPTER 1: INTRODUCTION

*Magic: The Gathering* is a trading card game (TCG) developed by Richard Garfield and published by Wizards of the Coast in 1993. The trading card tradition can be traced back to at least the late nineteenth century where the popularity of professional baseball and photography resulted in the creation of baseball cards to market products ranging from cigarettes to gum. The popularity of trading cards exploded in post-war 1950s and grew into a still thriving industry. Garfield's idea for *Magic: The Gathering* took the concept of collectable cards and expanded it by utilizing the cards in a game that collectors can play which makes the cards valuable as collectors' items and as components of the game. While other trading card games have emerged since *Magic's* introduction, it remains one of the major trading card game platforms after nearly 30 years and has spun off a variety of multimedia paratexts, ranging from comics to video games. Additionally, *Magic* supports thriving casual and competitive communities as well as a number of secondary markets made up of card resellers, third party accessories, and fan productions.

Over the past ten years there has been significant interest in developing digital versions of analog games and this interest has been increased substantially as a result of the COVID-19 pandemic as players seek to maintain their connections to their communities and publishers attempt to drive interest in their current products. While I am not particularly interested in explicitly analyzing the effects of the COVID-19 pandemic, it is necessary to provide context as a historical backdrop as the sense of isolation in the early months likely contributed to accelerated adoption and development of digital platforms for playing analog games. A particular instance of this is *Spell Table*, which began as a community made tool for playing the

Commander format of *Magic* online using paper cards and was purchased by Wizards of the Coast by the end of 2020. Likewise, in the United States various states of lockdown and pandemic anxiety have defined nearly half of *Arena*'s lifespan and was the impetus behind pushing for it as a replacement for in person *Magic* events. *Arena* has been a major development and has helped *Magic* become a billion dollar property as of 2022 (Hasbro, 2023b). Similarly older versions of digital *Magic*, like *Magic: The Gathering Online* which was released in 2002, now run by Daybreak Studios, continues to be profitable and fulfill a niche in the *Magic: The Gathering* community (Limited Resources, 2023). *Magic* has a long history of being adapted for digital formats, starting with the first digital version developed by MicroProse in 1997 and several in the intervening years. The approaches that each of these adaptations take differs with trends in both digital games and the direction of *Magic*. Adaptations of *Magic: The Gathering* show the impacts that the effect of platformization has on the design, development, and practices for playing analog games and their growing roles in these communities. The crossroads of the analog and digital signals a drastic shift in the way that both analog and digital games are approached for better or worse.

### Research Questions

Given these trends in *Magic*'s own history and the state of digital adaptations of analog games, my research questions are as follows:

1. How do the different historic approaches to creating digital adaptations of *Magic: The Gathering* change our understanding of the relationship between digital and analog platforms?

2. How are approaches to narrative systems in analog to digital adaptations of *Magic: The Gathering* reflected in how the thematic framework of the game has changed over time?
3. How are the economic models of *Magic: The Gathering* implemented within the platforms of Digital Games and how do analog to digital adaptations help us understand this relationship?

Adaptation is a way to explore the relationships between digital and analog platforms and trace historical trends in these relationships. There are a number of different approaches to adaptation that favor different aspects when moving between analog and digital platforms. For example, the historical trajectory of the narrative and thematic elements of *Magic* are reflected in different adaptations and generally align with the broader framing of the game at a given moment in time. Within analog-to-digital adaptations is a tension between the process of remediation described by Jay David Bolter and Richard Grusin as “the representation of one medium in another” (Bolter & Grusin, 1999, p. 45) and the processes associated with *adaptation* proper, which Linda Hutcheon outlines in *A Theory of Adaptation* as an act of interpretation focused on the intertextual relationship between the original and the adaptation (Hutcheon, 2006). These two processes are not at odds with one another, rather they are complementary. Remediation can be used to describe the implementations of the material components of a game’s interface, while Hutcheon’s theory of adaptation can describe the textual and discursive elements of a game. Game designer and scholar Greg Loring-Albright has identified the difference and has previously noted that in analog to digital adaptations the game components are what is being remediated, while the ludic and thematic elements remain mostly intact and

recognizable. However, remediation and adaptation are not mutually exclusive processes, rather they are co-constitutive of the analog play experience as it is translated into a digital format.

Additionally, *Magic* is a long term model for understanding how we navigate the economics of “Pay to play” and community driven market ecosystems in games. Many of the economic models that have emerged in games over the past several decades reflect what Seth Giddings and Alison Harvey identify as the “Ludic Economy” which describes the “dynamic ecosystem of emergent business models, new modes of production and labor, and new cultures of play” that are intertwined with the entertainment industrial complex of late capitalism (Giddings & Harvey, 2018). Diagrams of the ludic economy consist of ways to increase the extraction of capital through free-to-play games through the increasing emergence of “Battle Pass Capitalism” (Joseph, 2021), “gamblification” (T. Brock & Johnson, 2021), and productive play (Whitson & French, 2021). However, the elements of the platform ludic economy are not new nor are they exclusive to digital games. Tracing the history of collectable and trading card games shows the connection between analog games and the anxieties driving the platform economics of Non-Fungible Tokens and other blockchain gifts (Murray, 2021). Many of the base elements found in the ludic economy of digital gaming can be traced to analog games and are present in *Magics* history both for the analog format and its digital adaptations. Analyzing analog to digital adaptations demonstrates the links between these and also provides insight into the trends in digital currencies and digital ownership. The analysis that follows draws heavily on theoretical frameworks that emerge from both platform studies and analog game studies in order to describe the relationship between analog and digital platforms.

## Platform Studies: Computation, Communities, Components

Platform studies comprises a set of methodological approaches to examining technological assemblages formally introduced in Nick Montfort and Ian Bogost's *Racing the Beam*. Bogost and Montfort's platform studies initially signal a material shift in media studies and in game studies more specifically. The initial goal of these approaches is to leverage humanities approaches alongside rigorous technical analysis of low level computing systems to examine how they relate both to creative production and culture (Montfort & Bogost, 2009). The development of platform studies can be positioned as a response to the prolonged debate between narratology and ludology as well as the ideological critiques of video games that defined the field of game studies in the '90s and early 2000s. This return to materialism reflected a trend in the humanities that is interested in "how *things* and *matter* produce action and meaning in the world" (Benson-Allott, 2016, p. 345). Bogost and Montfort define platforms as ecosystems made up of layered systems, low-level mediating software such as operating systems, the higher level software layers, and any modular components associated with the base system such as displays or input devices (Schweizer, 2014), or more specifically "whatever the programmer takes for granted when developing and whatever [...] the user is required to have working in order to use a specific software" (Montfort & Bogost, 2009, p. 2) and "anything built that makes it easier to build other things" (qtd. in Benson-Allott, 2016). Platform studies uses these layers to describe how specific affordances and constraints come together to facilitate and limit creative production on the part of the user.

The term platform has also been taken up within discursive networks for the way that it resonated with various audiences as a way to make claims about emerging web 2.0 technologies

“are and are not, and what should and should not be expected of them” (Gillespie, 2010, p. 359). The use of platforms to describe systems of participatory content creation denotes an expanding idea what constitutes a platform studies subject as entire media assemblages because these other platforms facilitate specific kind of creative production based on their built in affordances and limitations (Schut, 2014). In conjunction with this trend several responses to platform studies identify gaps in its epistemological approach where people, things, and histories get left out by focusing solely on the hardware and software elements of the platform. Thinking through a platform as a part of a broader media assemblage clarifies the “relationship to culture and creativity”(Montfort & Bogost, 2009, p. viii) such that the process of doing platform studies is ultimately what produces a platform (Apperley & Parikka, 2018). Thomas Apperley and Jussi Parikka observe how the parallel trajectories of inquiry from media history fields such as media archaeology share an interest in the questions of platform studies and can “provide a basis for an explicitly articulated critical methodology of platform studies” (Apperley & Parikka, 2018, p. 351) by specifically foregrounding questions about how platforms are configured and reconstructing which highlights the way creativity is embedded within technocultural systems. The approach suggested by Apperley and Parikka involves unearthing and developing the epistemic threshold of platform studies that determines how knowledge is produced and what kinds of knowledge are produced. One of the primary concerns for Apperley and Parikka is the limited historical context that is often used to develop a given platform’s archive, which often lacks accounts of the embodied community and individual user practices.

Analog game studies’ adoption of platform studies methodologies has become invested in the idea of platforms as “part of an assemblage of human and non-human elements that together



make something happen” (Benson-Allott, 2016, p. 345) which recontextualizes what it means for something to be computational or do computation (Altice, 2014; Bellomy, 2017; LaLone, 2019; Murray, 2020). Using standard playing cards as a focus, Nathan Altice makes the argument that it is the game components which make up the platform for analog games because these afford various ways to communicate state based information which can then be interpreted by the players (Altice, 2014). The game pieces, such as cards, meeples, or game boards function as not only the input and output interfaces, but they also act as the internal hardware analogous to the physical bits being flipped, the memory being written and read. The limitation to this approach however is that, while analog game components can be used to represent the material effects of action, they cannot perform computation on their own as Ian Bellomy observes:

“Technologies such as cards, dice and little wooden blocks are not electronic artifacts; they cannot themselves compute; they cannot execute algorithms. Strictly speaking, we could define analog games as those games that exist *sans platform*” (Bellomy, 2017). A game’s components are more akin to the material pieces which come together to allow a computer to do computation, the capacitors, the sticks of ram, or the connecting pins and instead it is the human player which performs the act of computation.

There is an experiential effect to occupying both positions for the player as the act of playing an analog game relies not just on the formal interactions with the rules but is also contingent on executing those processes. In many ways my project is an analysis of the assumptions being made based on who is imagined to be playing and how games produce the kinds of players designers want to be playing. The rules of an analog game constitute the software that is effectively running on the system. Nick LaLone makes the argument that

roleplaying games such *Dungeons & Dragons* provide instructions that guide how the player and the game components, *the machine* to use Galloway's language, and provide a set of processes for guiding calculation (LaLone, 2019). For LaLone, *Dungeons & Dragons* is more than just software which runs a game, it is also mediating software which governs how players should carry out specific forms of computation and foregrounds players as both operator and machine. LaLone writes, "The referee, or gamemaster, is a system of computational logic that multiple users input commands into. This logic-engine is very similar to what we know as the computer processor."(LaLone, 2019) Because of the way *Dungeons & Dragons* and its wargame predecessors utilize very specific mathematical formulae and a variety of procedural generation tables, they were fairly easy to port to computers as they emerged. Henry Lowood similarly identifies this phenomenon in his essay tracing the development of wargame engines for computers (Lowood, 2016). To call back to the discussion earlier regarding the parallel developments of analog wargames and cybernetics, the kinds of interactions laid out in the rules of analog games have impacted the way digital video games are produced and how their processes function in code (LaLone, 2019; Smith, 2015; Torner, 2018).

In the analog game space there has also been pushback against the heavy focus on computation which can often ignore the way that a platform is culturally situated and analysis of a gaming platform must, by necessity include the social as well as the technical aspects which firmly situate the platforms within broader networks of media ecology (Švelch, 2016; Trammell, 2019). To this end Jan Švelch identifies an additional cultural layer which sits atop the rest of platform studies' layers. Švelch uses *Magic: The Gathering* to examine the "community building and other fannish" activities as well as the commercialized peripherals market that facilitate a

plethora of play experiences that would be ignored without paying attention to the cultural components of *Magic* (Švelch, 2016) to describe a cultural layer that includes the social processes which encompass all possible play experiences of a given gaming platform. Adopting this framing of platform studies, the cultural and community practices comprise an important component of platform activities and even function as their own play experiences. Engaging in community practices, such as participating in fan forums, visiting games shops, theory crafting, hypothesizing, etc., are equivalent to what is traditionally thought of as “playing the game.” In their book *Metagaming*, Stephanie Boluk and Patrick Lemieux theorize metagames as, “everything occurring before, after, between, and during games as well as everything located in, on, around and beyond games”(Boluk & LeMieux, 2017, p. 11). Metagames are not merely ancillary activities and practices surrounding a game, but rather metagames are the only games we play and describe the entire spectrum of ways players engage in the act of play. In other words, games are the platforms which facilitate play, and through which play experiences are mediated.

The community element of a platform can be considered in many different ways and at many different scales, from hyper localized to expansively global. On the very local level I am interested in local playgroups made up of a handful of individuals that develop their own particular practices and approaches to a subcultural activity. Gary Alan Fine says that gaming communities are a kind of subculture where individuals are invested in a set of cultural elements related to a specific activity and may overlap with any number of other adjacent communities (Fine, 1983). These subcultural groups are similar to what Etienne Wenger identifies as communities of practice, wherein a practice refers to not just encompasses not just an activity in

itself but also the “historical and social context that gives structure and meaning to what we do”(Wenger, 1998, p. 47). According to Wenger, communities of practice emerge from the combination of mutual engagement, formation of a joint enterprise, and the development of a shared repertoire of skills, knowledge, habits, and other concepts adopted by the community. In early tabletop roleplaying game communities Fine identifies similar features of a gaming subculture where many of the elements of a community of practice are shaped by the rules imposed on the players by the publishers and designers of the games. However, a community of practice is not only defined by the pre-prescribed boundaries of an activity but also the “cultural elements that are not necessary components of the games played, but are constructed by members of the subsociety”(Fine, 1983, p. 28). These elements of community are not necessarily bounded spatially, but instead center around a particular kind of activity. Celia Pearce uses the term “communities of play” as an intentional counterpoint to communities of practice in her study of online player communities because the digital networks of technologically mediated play “amplify the scale, progression, and geographical reach of play communities, allowing them to grow much larger much faster than their offline counterparts” (Pearce, 2009). Fine and Pearce identify two different scales of community that emerge from gaming subcultures. Pearce’s communities of play center in on a broader technologically mediated connection between players and their practices, while Fine focuses on what he calls an ideoculture that describes “a system of knowledge, behaviors, and customs peculiar to an interacting group to which members refer and employ as the basis of further interaction”(Fine, 1983, p. 136) which is developed based on events which happen within the game as well as the emergence of interpersonal friendships and traditions. The difference between ideoculture and

communities of practice is that the latter is more interested in how the mediating technologies influences the way that practices develop while the former sees the ways that group ideology structures how the game is played.

The tension between player driven practices and practices that emerge from a mediating technology is an important question for media studies. André Brock identifies the ways that the interactions and practices are “mapped out by the designers and engineers who code the technology” but remain open for users to “find ways to create additional pathways and practices to represent themselves within that technology” (A. L. Brock, 2019, p. 10). The assumptions made about who is using technology and how often go underrecognized and “obscure the beliefs embedded by the designers, systems, infrastructures, and the users themselves (A. L. Brock, 2019, p. 8). Historically the ideology embedded within the design and development of games has been either ignored or excused by the community and scholars under the auspices of the so called “*Magic circle*”, which posits that games occur within a culturally separate and closed off play space, which has led to the exclusion and harassment of anyone, particularly marginalized folks, who point out the short comings of the *Magic circle* framework (Consalvo, 2009; Fickle, 2019). This is similarly reflected in the “narratology/ludology” debates that define a kind of nexus of wheel spinning in the early 2000s as game studies attempted to figure out what it wanted to be. The debates, such as they were, pushed back against the analysis of games as anything other than technical artifacts and derided anyone, also mostly marginalized folks, who raised questions about representation or the cultural effects of games (Phillips, 2020). The histories of these discourses are reflected in discussions about the perceived neutrality and efficacy of “the near-ubiquitous use of algorithmically driven software, both visible and invisible to everyday people”

and as Black technology scholars like Brock, Safyia Noble, and Kishonna Gray argue, demand “a closer inspection of what values are prioritized in such automated decision-making systems” (Noble, 2018, p. 1). Algorithmic aesthetics describe the tendency for computational approaches to technological problem solving, such as artificial intelligence, web searches, data analysis, and even games, to become “such a normative part of our experience with digital technology and computers that they socialize us into believing that these artefacts must therefore also provide access to credible, accurate information that is depoliticized and neutral” (Noble, 2018, p. 25). The belief that algorithmic approaches will always find a neutral objectively correct, optimal, or authoritative solution to a problem is a falsehood which breaks down particularly quickly when examined through an intersectional cultural lens and underscores the structural inequity that is fundamental to what Noble calls algorithmic oppression (Noble, 2018). Games and gaming spaces in particular are notorious for producing specific ideocultures and communities of play that “should be viewed as a particular interpretation and narration of racial dynamics that attempt to (re)organize assumptions and beliefs” (Gray, 2020, p. 30) and result in what Gray calls Collective identity which “can be defined as an individual’s cognitive, moral, and emotional connection with a broader community, category, practice, or institution” (Gray, 2020, p. 41). Play and the platforms that facilitate it shape players in particular ways, and as Trammell observes, the affordances of online platforms for analog games provide for the needs of specific kinds of players but “no one environment can accommodate everyone equally” (Trammell, 2010). While my own project does not explicitly engage with race, the discussion above demonstrates that “to design technology for people, without a detailed and rigorous study of

people and communities, makes for the many kinds of egregious tech designs we see that come at the expense of people of color and women” (Noble, 2018, p. 70).

### Analog Game Studies

The study of analog games as media objects necessitates what Marco Arnaudo identifies as a transdisciplinary approach which takes into account humanistic and computational approaches which pay special attention to the affordances of the material components of analog games (Arnaudo, 2019). My disagreement with Arnaudo occurs when, he writes that a history of analog games must “emphasize the unique possibilities of the medium, without porting concepts from video gaming that do not necessarily apply” (Arnaudo, 2019), a sentiment which seems to reinforce this artificial distance between analog games and digital games as well as ignoring their complex historical relationship and the ways that one’s development is informed by the other. To be charitable to Arnaudo, I will admit that the history of analog games prior to the 1940s seems initially disconnected. Further, the development of game studies as a field as it emerges at the turn of the century locates texts which primarily center on the study games which would now be identified as analog games as foundational texts of the field (Trammell et al., 2014). The so-called cannon of game studies draws upon a rich tradition of play studies to inform approaches to studying digital games. This relationship flows both ways as things thought to be specific to the domain of video games can often be easily applied to analog games to achieve alternative analytical approaches.

The identification of games as “analog” presupposes an opposition to “digital.” In my experience the objection often brings into question the usefulness of analog as a label. Scholars

such as N. Katherine Hayles and Matthew Kirshenbaum have argued for a synthesis between analysis material and digital technologies (Boluk & LeMieux, 2017). The assumption behind the question seems to be that the use of analog somehow rejects the relationship between the analog and the digital. After all, as the editors of the *Analog Game Studies Journal* note that “analog” often “only exists by way of negative comparison to the digital”(Trammell et al., 2014)— which, ironically, mirrors the etymology of the term digital as a way to differentiate new technologies from analog technology. The adoption of the term analog to mean “non digital” signals a retroactive emergence of an analog heritage for experiences of play which exemplify cultural forms yet are not mediated by digital technologies. Additionally, contemporary production of analog games is deeply intertwined with digital technologies such as image editing software, social media platforms, and even hybrid approaches to game design. Under this paradigm analog games exist as complex artifacts which are embedded within the cultural contexts from which they emerge (Arnaudo, 2019; Torner, 2018; Trammell et al., 2014). Stephanie Boluk and Patrick LeMieux provide an alternative approach to this debate writing, “The term materiality, then, labels those emergent processes by which videogames are made digital by various players (be they human or nonhuman)”(Boluk & LeMieux, 2017, p. 293) which indicates, again, a genealogy between analog and digital play which blurs the line and reenforces the intertwined nature between the two. Despite these objections, I find that the term analog is a useful mechanism for distinguishing the aesthetic approaches for each modality of game as well as acknowledging the complex relational histories of the development of games as objects and game studies as a field.



## Methodology

The methodology I will use to analyze the *Magic: The Gathering* platform and digital adaptations is a synthesis of several different approaches to media discourse analysis drawn from the work of André Brock and Paul Booth. These approaches are informed by a “culturally oriented approach” that “offers powerful insights into technology use and design that color-blind, instrumental, or political-economic approaches do not” (A. L. Brock, 2019, p. 16). This culturally oriented approach informs my approach to platform studies and the attention to the networks of affect that undergird the social and material realities of *Magic: The Gathering* as a media assemblage. In *Board Games as Media*, Booth describes ludo-textual analysis and ludic discourse analysis which both build on traditional textual and discourse analysis respectively through the inclusion of the thematic and play elements which make up pieces of what I have previously identified as the analog play assemblage (Booth, 2021; Murray, 2020). Together these forms of discourse analysis allow us to describe how games become meaning making object through the interactions between components, mechanics, and theme as well as through the practices of design and play.

Textual analysis is a common approach to examining digital and analog games as media objects and is the focus of a large body of academic work and mainstream games journalism. However, as Booth notes, there is a tension between the textual elements of analog games and the ways that players interact with those elements through play. Booth offers ludo-textual analysis as a form of textual analysis that is augmented by looking at “how players themselves interact with the game’s system, each other, and the on-the-board components to get a fuller reading of a game’s text” (Booth, 2021, p. 19). While accounting for the agency of an audience

to interact with media is not a new addition to textual analysis, ludo-textual analysis highlights the role of materiality in the way game components, players, and systems of rules come into relation with one another. In analog games, components sit on the periphery until they are used to signify an action, change in the game state, resources, characters, or any number of other things. In this way the processes of meaning-making that occur during gameplay are necessarily co-constituted by the relationship between the players and the components. In developing ludo-textual analysis Booth draws on Aki Järvinen's formal analysis which highlights the material components of games and the way their arrangement can be read for meaning, but also incorporates the rules, mechanics, that make up the interface of the game, and the behavioral elements that determine how players interact and in what context. These elements come together to complicate the relationship between the textual, material, and experiential elements of reading analog games (Booth, 2021). Similarly Paul Wake observes that the thematic and material elements of board games in conjunction with the rules split players' subjectivity between characters within the thematic world of the game and as players sitting around a table playing a game (Wake, 2019). The strength of ludo-textual approach to board game analysis is that it accounts for the player's contributions as well as how games mediate the experiences of play.

Where ludo-textual analysis is interested in how players read their own interpretations of a game, ludic discourse "looks at the power inherent in a game's design to prescribe particular readings onto the game" (Booth, 2021, p. 61) through the interplay between the game's mechanics, thematic elements, playstyles, or other characteristics. Discourse analysis is most often interested in the way that language moves around a particular object to discuss the consequences and meanings of how something is framed by language. Ludic discourse analysis

differs through the abstraction of what constitutes “discourse” to include the milieu activities that engage the processes of meaning making and examining how player choice or investment influences the meanings derived from discourse. Ludic discourse analysis is distinct from other forms of discourse analysis also common in game studies that look at how discourse emerges within narrative games or the performative functions of player character dialogue. Booth also notes that ludic discourse analysis is not the same as “game discourse analysis” which is most often used in the study of serious video games that are concerned with how effective a specific message is communicated. Ludic discourse analysis builds on Michel Foucault’s work which describes how discourse exists beyond language to determine a “general recipe for the exercise of power... the ‘mind’ as a surface of inscription for power ... the submission of bodies through control of ideas” (Foucault, 1975, p. 102). For my project LDA is useful because of the way it takes into account the activities of play as they are bound up within the platforms and assemblages of play and give rise to different types of discursive patterns. These processes reveal the way games produce specific kinds of play which in turn produces a specific kind of player. This relationship is also reflected in the approaches to adaptation that are shaped by and shapes the discourses surrounding play. Ludo-textual analysis and ludic discourse analysis describe a number of different interactions that occur during the course of play, the material, the thematic or rhetorical, and the algorithmic or procedural. These do not exist in a vacuum and the lines between them blur as they are each reliant on one another. Rather these three categories serve to bracket the discussion to rein in the overall scope of this project.

Critical technocultural discourse analysis is a methodology for discourse analysis developed by André Brock in part of describe the interdisciplinary approach used to examine the

“assemblage of the artifact and its practices and, importantly , the technocultural beliefs about the artifact as evinced by its users” with an interest in identity and difference in relation to digital platforms (A. L. Brock, 2019, p. 8). While not necessarily oriented towards games, CTDA encompasses the specific goals of LTA and LDA in that they are each used to examine the relationship between a technocultural object and its users in relation to one another. CTDA looks at computational objects as a discursive text which mediate “discursive actions enacted as digital interfaces and associated practices” (A. L. Brock, 2019, p. 9) and then reads the way the interface, narrative, and the contexts where it is used in relation to the way it is being used. Together CTDA, LTA, and LDA pay attention to the “material substratum underpinning the interactions of people ‘through, around, and with technologies’” (A. L. Brock, 2019, p. 9) to avoid reducing analysis to the design and function of technocultural objects that would obscure “the beliefs embedded by the designers, systems, infrastructures, and the users themselves” (A. L. Brock, 2019, p. 8). These methodologies are a useful addition to the toolbox of platform studies because they take into account the contexts that platforms exist within. The inclusion of CTDA is necessary because is also a way of analyzing the way that users “find ways to create additional pathways and practices to represent themselves” within technology while still following the “interactions and practices mapped out by the designers and engineers” (A. L. Brock, 2019, p. 10).

In action the process of discourse analysis on the platform assemblage of *Magic* will involve close readings of *Magic* and its adaptations in conjunction with paratextual elements drawn from the community such as official press releases archived online, articles from online media outlets, and print media such as the now defunct trade magazines “The Duelist” published

by Wizards of the Coast and “InQuest” published by Wizard Entertainment (no relation). Taken together, these artifacts provide community contexts that can provide insight into how players “draw on their cultural, environmental, and social contexts to make meaning from their technological interactions” (A. L. Brock, 2019, p. 10) and how the digital adaptations do or do not reflect these contexts. This analysis describes the way that the processes of adaptation impact the way that players interact with various forms of *Magic*. Each of the remaining chapters engages employes these approaches to discourse and textual analysis along with additional relevant theoretical frameworks in order to reveal the nuances of the impact that adaptation has on both the original object and the digital variations.

### Chapter Summaries

#### Chapter 2

Chapter two introduces the concept of Adaptation Mapping as a method for describing analog to digital game adaptations in relation to both their interfaces and their subjective and affective dimensions. This chapter walks through the development of two axes for describing the tendencies of an adaptation. The first describes the relationship between the material interface of *Magic* and the interface as it is adapted through the lens of Bolter and Grusin’s theory of remediation. The second axis describes whether an adaptation is primarily ludic or primarily thematic in the content it features and the way that it features the content. This second axis is constructed by extending Cameron Kunzelman’s theory of affective and subjective adaptation along with Hutcheon’s description of intertextual adaptations. These two axes are then presented as a graph which can be used to describe adaptations in relation to analog *Magic* and to each

other. Throughout this chapter various digital adaptations and platforms for playing *Magic* digitally are examined using adaptation mapping to both examine their relationships to each other and analog *Magic* and examine the limits of adaptation mapping as a descriptive method.

### Chapter 3

Chapter three examines the evolution of *Magic: The Gathering*'s narrative framework and the systems which allow for the production of narrative events. It begins by introducing the concept of the planeswalker and establishing its significance for *Magic: The Gathering* as a property. Then the discussion turns to the various ways that the algorithmic nature of *Magics* rules and procedures allow for the construction of narrative moments during play. I then trace the shift in planeswalkers from being stand-ins for player avatars to the way Planeswalkers have become a cast of characters controlled by Wizards of the Coast. This chapter positions the *Magic: The Gathering Duels of the Planeswalkers* series as a focal point in the change from player driven storytelling to intellectual property driven storytelling which turns *Magic* the trading card game into a paratextual game for *Magics* continuing storyline. This chapter argues that the way *Magics* narrative framework shifts over time has had an effect on the way that characterization occurs through different forms of adaptation which in turn reveals broader moves within *Magic: The Gathering* as a transmedia franchise as a whole.

### Chapter 4

Chapter 4 engages in an examination of the economic impacts of adaptation by examining *Magic: The Gathering* through the lens of capture and the ludic platform economy. This chapter examines how *Magic: The Gathering Arena* remediates the mechanisms of the

digital ludic economy that were already at play in analog *Magic*. I present remediation as a process that replicates a sense of digitally enforced authenticity which gives the digital cards of *Arena* a sense of authenticity while also replicating the grey market aesthetics of community labor through cosmetic microtransactions. This study presents *Arena* as a nearly perfected case of the ludic platform economy which redirects flows of capital back towards Wizards of the Coast. Ultimately, this chapter uses *Arena* to argue that the mechanisms of capture that are emblematic of the ludic platform economy were already present in analog spaces and become more predatory when adapted to digital platforms. This reveals the tension between the value of analog and digital commodities when the apparatus of capture is remediated to fit the needs of the platform owner.

## CHAPTER 2: ADAPTATION MAPPING<sup>1</sup>

### Introduction

*Magic: The Gathering* has been adapted for digital platforms through a variety of approaches preference different types of experiences. This is in part because *Magic* is a wildly popular game with an evocative theme and worldbuilding that players are invested in.

Some straightforward and obviously intended to be near one to one adaptations, such as the *Duels of the Planeswalkers* series and *Magic: The Gathering Online* and *Arena*. While others have a somewhat tangential relationship to *Magic* but are tied to *Magic* through theme and subtle nods designed into the interface elements. This chapter is about all the strange, convoluted permutations designers have approached the *Magic: The Gathering* formula in order to transition to digital platforms throughout its lifespan in order to ultimately devise a schema for describing analog to digital adaptations of games. *Magic*, in particular, is an important case study because in its 30 year history because of the approaches to adaptation include a broad range of ludic and thematic experiences presented in ways that either highlight the digital nature or obscure it behind intuitive interfaces.

The ultimate goal of this chapter is to present a methodology I have defined as Adaptation Mapping which is a way to talk about adaptations in relation to the original as well as other adaptations. This presents itself as a kind of conceptual graph where adaptations can be placed in relation to two axes that describe properties of an adaptation. There is no quantitative

---

<sup>1</sup> An early version of this chapter was published on February 16, 2023 as "'Are You a Planeswalker?' Remediating *Magic: The Gathering*" in *Generation Analog 2021: Proceedings of the Gapletop Games and Education Conference* by Carnegie Mellon University; ETC Press under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.



element to this graph as the usefulness of quantifying these dimensions is dubious at best. Rather, the location on each axis is to be determined by a close analysis of the adaptation and its relationship to the original media object. In this case, how does the adaptation compare to the trading card game *Magic: The Gathering*. Additionally, the more adaptations examined the more complex the relational network becomes, which provides a more granular understanding of how different approaches to adaptation impact the play experience.

### Defining Adaptation Mapping

Before deploying adaptation mapping, I need to define its framework and axes. What I position as the horizontal axis is most useful for describing the interface of the adaptation and the way it asks players to interact with the game. It draws on Jay David Bolter and Richard Grusin's theory of remediation to describe an axis bounded by immediacy and hypermediacy. On the immediacy end, we see adaptations that attempt to erase the gap caused by the mediating layer of the computer, such as *Arena* which tries to make the interface as seamless as possible. On the other, we see the adaptations which highlight the mediation of the digital platform and even revel in the gaps of the interface, such as *Spell Table*. The horizontal axis describes the degree to which an adaptation is primarily ludic or primarily thematic. This axis is primarily interested in the subject positions that are preserved and changed through adaptation, paying particular attention to the affective dimension of each position within the adaptation. That is to say, adaptations which fall on the ludic end of the axis predominantly describe the degree to which ontological unity is maintained between the original and the adaptation. These games tend to feel more like sitting down to play a game of *Magic* at a table. The thematic end of the spectrum is interested in the

degree to which the feel of the thematic and narrative world of *Magic* is brought into the adaptation. At the extreme end of the thematic end of the spectrum exist games like *Magic Legends*, which as players to exist in the storyworld of *Magic* and are readily identifiable as *Magic: The Gathering* themed games and yet ontological unity breaks down through its approach to adaptation.

The structure of this chapter is an attempt to recount my own journey through figuring out how to describe the differences in *Magic's* varied adaptations and as such the different variations of *Magic* will not explicitly be presented in chronological order. Instead, I begin with a description and examination of the remediation axis and then proceed to the ludic/thematic axis by introducing the complicating factors that necessitate its presence. In the process of setting up the adaptation map, I examine a number of adaptations which receive special attention. Among the big three I include, MicroProse's 1997 release *Magic: The Gathering*, colloquially referred to as *Shandalar*, Stainless Games' series *Magic: The Gathering Duels of the Planeswalkers* (2009-2015), and Wizards of the Coast's first party adaptation *Magic: The Gathering Arena* (2018). These adaptations are important because they cover a wide area of the adaptation map and are also significant turning points that will be examined later in this dissertation later chapters in this dissertation. I will also include references to other adaptations that are important for the way they approach the task of adapting *Magic* and present interesting case studies for mapping analog to digital adaptations. These include platforms like Berserk Games' *Tabletop Simulator* (2015), fan-project-turned-first-party app *Spell Table* (2020), as well as some of the weirder adaptations such as *Magic: The Gathering Battlemage* and *Magic: Legends* which bring into question what it means for something to be an adaptation in the first place. Other adaptations will be referenced

in passing but have been excluded from in depth analysis for the sake of scope. These particular adaptations are outside the bracketed set of texts because they are more straightforward in their approach to adaptation and what makes them useful case studies exist already in another adaptation that I have included. It is necessary to understand how adaptation and remediation function, the ways in which they differ from each other, and how each interacts with different analog game platforms. There has been much work done recently regarding the general approaches to adapting analog games for digital platforms, and each approach foregrounds different aspects of adaptation. In order to describe analog to digital adaptations, it is important to analyze and synthesize these other approaches. What we find is an interest in the relationship between the material components and the formal rules of the game, particularly how each is represented in the digital space.

### Adaptation, Remediation, and Analog Game Platforms

The way that I use the term adaptation in this project is as a collection of processes which sees a text altered from one format to another. These processes are multitudinous and deeply connected to the broader assemblages in which the media objects they act upon exist. Adaptation does not have to be analog to digital or vice versa and these processes can occur from one media platform to another similar media platform. That being said, adaptation is a way to explore the relationships between analog and digital platforms. Different approaches to the processes of adaptation tend to favor different aspects of the play experience when moving from analog to digital. For example, the historical trajectory of the narrative and thematic elements is reflected in the first party digital adaptations and generally aligns with the broader framing of the game at

a given moment. Another example is the way that digital approaches to *Magic* have influenced the design of analog products. Within analog to digital adaptation, there is a tension between the process of “remediation” described by David Bolter and Richard Grusin as “the representation of one medium in another (Bolter & Grusin, 1999, p. 45) and the processes associated with “adaptation” proper, which Linda Hutcheon outlines in *A Theory of Adaptation* as an act of interpretation focused on the intertextual relationship between the original and the adapted work (Hutcheon, 2006). These two processes are not at odds with one another, rather they are complementary.

Remediation is the “process of cultural competition between or among technologies” (Bolter, 2001, p. 23) through reorganizing the characteristics of another medium. According to Bolter this process is as much critique as it is homage and what experiences are valued can be seen in how something is remediated. In other words, “media software ‘interprets’ any media it touches and its ‘interpretations’ always include certain statements” (Manovich, 2013, p. 122). Which in turn elucidates what is thought to be important about the original media. Game Scholar and designer Greg Loring-Albright rejects remediation as the primary process that occurs when a game is moved from analog to digital because ultimately the game’s “components are being remediated, but the game itself is a medium that transcends its mere components”, likewise the interface’s need “to announce itself prevents the total transparency that characterizes this mode” of remediation (Loring-Albright, 2022, p. 29). Finding commonality in Alexander Galloway’s critique of remediation in *The Interface Effect*, which argues that remediation is a global processes but is often applied too locally (Galloway, 2012), through which Loring-Albright argues that “when a game moves from analog to digital it is not ‘a game’ that is at issue as much

as it is the fact that certain things about the game are not able to be moved in this way” (Loring-Albright, 2022, p. 27). He is correct in pointing out these issues with remediation and its application. However, while the inability for an adaptation’s interface to fully disappear is enough for Loring-Albright to discard remediation as a process involved in adaptation, it is precisely this aspect of remediation which is necessary for discussing what occurs when the digital implementation of a game asks players to interact with its interface in specific ways that belie the attitudes of the developer.

As an alternative to remediation, Loring-Albright offers Linda Hutcheon’s definition from *A Theory of Adaptation*, which defines an adaptation as being: An acknowledged transposition of a recognizable other work or works, a creative and interpretive act of appropriation/salvaging, or an extended intertextual engagement with the adapted work (Hutcheon, 2006, p. 8).

Applied to analog games and their digital recreations, this is immediately clear to players that a game whose digital version maintains ontological unity is a recognizable transposition. The second point is somewhat more complicated. Loring-Argues that the creative or interpretive actions of an adaptation are performed on the “visual representations of game components and interfaces” rather than the rules themselves (Loring-Albright, 2022, p. 30). Finally, for point three, the intertextual engagement comes from either the ways the rules are enforced by the system as well as the representation and presentation of the components within an interface (Loring-Albright, 2022, p. 31).

While I agree with Loring-Albright’s argument that it is the game components that are being remediated rather than the game itself, it is important to consider the impacts that the affordances of the material components have on the design itself. This tension between the

game's rules and systems highlights the tactile element of analog games and the ways in which the materiality of the analog game assemblage matters. It is important to consider how the affordances of the material components influence the way the game's rules function, and as such must be considered in conjunction with adaptations of the rules. Thus far, remediation and adaptation have been posed as similar, but separate processes, however, looking at Loring-Albright's analysis, it becomes clear that what is happening in analog to digital adaptations is actually a constitutive process that sees the remediation of the game interface as well as a textual conversion of the systems of the games.

In particular for *Magic: The Gathering*, the primary material component is the cards which facilitate play make up part of the platform upon which the game is played. In his examination of playing cards as a platform, Nathan Altice identifies the way that *Magics* material affordances as a card game influenced the design of the game. Altice describes the innovation *Magic* brought to the fore in card games, namely the concept of tapping a card to represent a game state. While it was not a mode invented by *Magic*, it was certainly successful. Altice notes that "tapping worked because it multiplied a card's base combinatorial possibilities without the need for supplementary art, text, or other physical alterations" effectively upgrading cards from a one bit processor to a two bit processor if thought of through a computational metaphor (Altice, 2014). Through this platform analysis of cards, Altice identifies a number of other elements of the playing cards which afford them what he calls "exceptional" qualities that allow them to structure game design in specific ways. The ordinality of the card specifically refers the ability for cards to be "grouped into sets, counted, sorted, ranked, indexed, and ordered" which has been the historic driver of many classic card games, such as Rummy and

Uno, as well as games played with traditional 52 card decks, such as hearts, War, and Go Fish (Altice, 2014). In *Magic*, the ordinality of the cards allows them to be played in a sequence that is then interpreted, executed, and then the output is reflected in the game state, either the removal or addition of cards in the play area, a change in life total, tapping, drawing, discarding, or any number of other outcomes. Additionally, the ordinality of the cards makes it possible to perform mathematical operations on them and in turn become numerical objects makes the underlying computational logics.

Altice goes on to acknowledge the growing market for digital card games around 2014, the year his article was published. The claim Altice makes is that when they are represented in a digital space, cards are no longer a platform. However, as I have argued before the playing card “ is not the platform any more than the individual components of a circuit board or processor are a platform” , instead it is the assemblage of the player, the material components, and the rules that make up the whole platform of analog games (Murray, 2020). Ian Bellomy identifies that the design of analog games is “contingent on human algorithm enactment capabilities” (Bellomy, 2017) making the argument that the computational considerations have an impact on the experiential aspect of analog play. Understanding the relationship between the player and the material components of the game, Bellomy points out that “components do not compute, players compute using components. When humans play analog games they appropriate objects in order to perform computations...people compute by way of assigning formal significance to some features of the world” (Bellomy, 2017). Likewise, Nick LaLone identifies the way that analog war games and tabletop roleplaying games like *Dungeons & Dragons* utilize the human referees or game masters as “a system of computational logic that multiple users input commands into.

This logic-engine is very similar to what we know as the computer processor” (LaLone, 2019). LaLone continues this comparison to identify *Dungeons & Dragons*’ rules are “its programming language, the GM is its processor, and the players and GM together work as its memory” and “the campaign – or connected game sessions – are what we would refer to as software running on a platform” (LaLone, 2019). To transfer this metaphor to *Magic: The Gathering*, it becomes apparent that the cards themselves make up what Mirek Stolee calls the presentation layer which “consists of all its individual objects” which then store the game’s state (Stolee, 2023, p. 31). The rules of *Magic* describe how the game functions on a mechanical level and the computational processes which Stolee says can be “converted into Boolean logic in the game’s programming without loss of mechanical detail” in a process called codification (Stolee, 2023, p. 32).

By focusing on the material components of the game, Stolee advocates for an object-focused approach through Noah Wardrip-Fruin’s operational logics that “understands game state and computation as a result of the mediation of specific objects and the codification of abstract processes that govern those objects” and “allows for not only combinations of mediation without codification and codification without mediation, but also partial mediation and partial codification” (Stolee, 2023, p. 32). Mediation for Stolee, “aims to recreate affordances of the physical object in its new digital representation...the ways in which game components are mediated enable certain kinds of gameplay” (Stolee, 2023, p. 33) which invokes the same logic that Bolter and Grusin identify for the processes of remediation. In light of this, Stolee offers another definition of adaptation arguing that it is a three part process where analog games’ “objects are digitally [re]mediated, their game state information is digitized, and their rules are



codified into the game's programming" (Stolee, 2023, p. 40). This framework has a commonality with the one put forward by Loring-Albright in that they both are concerned with the way the rules and processes of analog games are implemented in relation to the interface of the game and adaptations.

Through the synthesis of Loring-Albright and Stolee's approaches to examining adaptation, it is clear that the material affordances of the analog components have an impact on the way that adaptation is approached and how effective each approach is. In looking at *Magic*, it is clear that the form of the card is important due to what Altice identifies as a card's textuality. Textuality indicates the ability for cards to have value inscribed upon them via symbols, words, images, and other mechanisms that can be read and interpreted (Altice, 2014). Most would be familiar with the suits of cards often paired with a number to give them both unique identifiers and allows them to be assigned value for playing certain games. Likewise, *Magic* takes advantage of card text in order to give players permission to execute certain actions in the game. Each MTG card has several components, a name, a mana value, an image, a type, and a box where ability or flavor text is printed. While there are some exceptions, for example lands do not have a mana cost, this format changes very little between cards. Some card types feature extra text, such as creatures which include a power and toughness number. A card's name provides it with a unique identifier that acts as a shorthand players can refer to in the moment. It is a description that points to the effects the card has and what it allows a player to do. It also refers to the object so that its location can be referenced whether in the physical space of play or in relation to the card's effects on the stack. Additionally, the card's name plays a thematic role along with the art on the card. Together they give a sense of what the spell the card represents is

doing and what it might look like in the fiction of the game. The Mana cost refers to the resources that are required in order to play the card, in order for a card to come into play the player must have the available resources.

Card types describe additional information about how a card's effects exist in the context of play. The primary types - Instant, Enchantment, and Creature, among others – describe what happens when a card is played and when it can be played. For example, Instants are a kind of spell that have a one time effect and can be played at any time on any player's turn. Initially they were referred to as interrupts, similar to the computer instructions which disrupt the normal flow of a program. Additionally, after an Instant card's effect occurs the card is placed into the graveyard or exiled and cannot be used again in most cases. Creatures on the other hand are a type of "permanent" card which comes into play and remains in play until it is removed due to a spell effect or taking more than its toughness in damage during a single turn.

The card's textbox is perhaps the most important part of the card because it outlines additional things that players are allowed to do. Cards are commands that players can add to the program of each turn, the additional card text in the text box describe specific actions and provide permission to break the normal rules of play. Much like a data object, the other information printed on a card tells the players how to read and interpret a card, while the card text is the instruction payload that gets executed. Viewing analog games as a platform assemblage made up of the rules, components, and players means that digital adaptation leverages the computer's ability to develop hybrid media in which the functioning of distinct mediums come together to allow new structures and new kinds of media to emerge from the interactions.

### Remediation Axis: Immediacy versus Hypermediacy

So, now that I've established that the analog to digital adaptations must, by necessity remediate some combination of the analog game platform, how do we describe this on an axis? Remediation describes the tendency for one medium be represented within another through a "process of cultural competition between or among technologies" (Bolter, 2001, p. 21) that "define themselves by borrowing from, paying homage to, critiquing, and refashioning their predecessors"(Bolter, 2001, p. 24). This first axis describes what Bolter and Grusin describe as the "double logic of remediation" which seeks "both to multiply its media and to erase all traces of mediation" in the very act of multiplying media. Remediation contains two modes, the first is that of hypermediacy which "dictates that the medium itself should disappear and leave us in the presence of the thing represented" (Bolter & Grusin, 1999, p. 6), that is to say an adaptation which focuses on remediation attempts to remove all distance between the player and the game components. This is why conserving the form of the cards is so important for digital adaptations of *Magic*. Bolter and Grusin point out that "the desire for immediacy leads digital media to borrow avidly from each other as well as from their analog predecessors" (Bolter & Grusin, 1999, p. 9) and this is in part because bringing in the familiar forms make the new variation of the media legible for target audiences. The ultimate end goal for immediacy is to "make this computer interface 'natural' rather than arbitrary" (Bolter & Grusin, 1999, p. 24) such that the player understands the interface at an intuitive level. Importantly this is not done with the naive assumption that the interface can completely disappear, rather the immedated interface aims to reduce the friction in its use as much as possible.

Hypermediacy on the other hand “multiplies the signs of mediation and in this way tries to reproduce the rich sensorium of human experiences” and “makes us aware of the medium” (Bolter & Grusin, 1999, p. 34). Hypermediacy is not necessarily the opposite of immediacy, but exists on the same spectrum though, instead of attempting to erase the gaps, hypermediated forms “ask us to take pleasure in the act of mediation” (Bolter & Grusin, 1999, p. 14) as “even the most hypermediated productions strive for their own brand of immediacy” (Bolter & Grusin, 1999, p. 9). Adaptations that privilege hypermediation make the mediating layer more obvious and gesture towards the material histories of the original which the process of adaptation attempts to erase. This kind of restructuring characterizes this kind of hybrid media where the data structures of the original are reconfigured and “the old structure has been remapped into a new structure” (Manovich, 2013, p. 171). This kind of hybrid media makes it apparent that immediacy and hypermediacy are necessarily dependent on one another and that the oscillation between the two poles lets us “understand how a medium refashions its predecessors and other contemporary media”(Bolter & Grusin, 1999, p. 19). Instead of assigning some kind of quantitative value to degrees of remediation, we can examine the relationship between immediacy and hypermediacy through their tendency towards either extreme.

*Arena, Spell Table, Tabletop Simulator, and Duels of the Planeswalkers.*

Now that I've described a new way for understanding this type of adaptation through the lens of remediation, I will apply this method to a few digital adaptations, such as *Arena, Spell Table*, and *Tabletop Simulator*, to determine where they fall on this axis. The first element I want to examine with remediation in mind is the way the form of the card is refashioned in analog to

digital adaptations of *Magic*. There have been many attempts at adapting *Magic* into a form that is playable online. One of the first attempts came in 2002 with the release of *Magic: The Gathering Online* which was developed under the title of *Magic Online with Digital Objects*. The interface for *MTGO* attempted to mimic many aspects of paper *Magic* with some success, including the implementation of a secondary card market. *MTGO's* features simplified iconic representations of cards which are then displayed upon a playing field. The interface for *Magic: The Gathering Online* was however a non-intuitive interface blending both mouse and keyboard controls to perform certain tasks. As an interface striving for immediacy, it falls somewhat short in its attempt. While it is still supported by Wizards of the Coast and has a substantial player base, it has been largely supplanted with the release of *Magic: The Gathering Arena* in 2018. Like *Magic: The Gathering Online*, *Arena* is an app driven version of *Magic* and is Wizards of the Coast's attempt to compete with Blizzard's 2013 release *Hearthstone* in the digital card game Market.

Both *Arena* and *MTGO* are primarily interested in preserving a "traditional" *Magic*, the gathering experience that replicates the act of sitting down at a table across from your opponent to play a game of *Magic*. As such the interfaces of these games present the familiar objects such as the cards, the deck, graveyard – where discarded cards are placed - and a surface where play happens. In particular, I want to look in depth particularly at *Arena's* play interface. What we are presented with is the playing field. A deck to our left, a hand of cards fanned in our digital hand positioned front and center as though we are holding them. When lands are played, they appear in the zone in front of us, beyond that our summoned creatures. On the other side of the table our opponent's set up mirrors our own. The oppositional layout is familiar to *Magic*

players. However, because of the screen real estate on both standard sized computer monitors and mobile device screens, cards are not able to be displayed in full. Instead, we see truncated iconographic versions of the cards. They are shortened further once they are in play to only display the art box with a short border. Despite the drive for immediacy, the interface must by necessity lean into hypermediacy for the sake of maintaining legibility.

It is also important to note that, while the cards in *Arena* are presented as discrete objects, that is, in fact, only an illusion. What is happening in reality is that the cards are stored as data that can then be parsed by the engine. The cards themselves are only displayed when they are relevant, otherwise they exist as tokenized references to data. The cards themselves are refashioned into a machine readable version for the sake of increasing the immediacy of the interface and the visual representations serve to “deny the mediated character of digital technology altogether”(Bolter & Grusin, 1999, p. 34). This is done so that “the user is no longer aware of confronting a medium, but instead stands in an immediate relationship to the contents of that medium” (Bolter & Grusin, 1999, p. 24), however it belies immediacy’s true reliance on the hypermediacy of the computer interface. In order to preserve the experience of the original digital adaptations are “incentivized to represent their components with visual fidelity to their analog originals, even if digitality affords other possibilities for representation” (Loring-Albright, 2022, p. 28) in order to avoid confusion on the part of the players. Too much change in the visual representation can break the illusion of immediacy.

An additional effect of *Arena*’s remediation of *Magic* is in the way it offloads the computational work from the player. This is performed through *Arena*’s custom implementation of the *Magic: The Gathering* rules through a digital engine. In *Arena*’s rule engine, cards can be

serialized with a standardized set of parameters that govern its interactions based on *Magics* explicit and implied key words that specify certain kinds of interactions. The introduction of a computer mediated rules engine *Arena* and other *Magic* adaptations which include their own rules engines, “do more than just afford physically-distanced play of tabletop games. They interpose a digital agent with the power to shape the gameplay experience” (Loring-Albright, 2022, p. 120). Participants in Loring-Albright’s survey note the effect of this digital agent, particularly in the ways that the game teaches them how to play. *Arena*’s interface includes a number of features that reduce the cognitive load, that is to say reduce the number of things players need to keep track of. This includes things like keeping track of cards remaining, visually indicating when the abilities and cards can be played, and even keeping track of information players have seen such as cards in opponents’ hands or the location of cards in a deck. The rules engine will also automatically execute game actions as necessary, whether the players understand why they are being executed in the first place. Some participants indicated experiences that end up with the counter intuitive conclusion that “having the computer empowered to limit options, show choices, and reduce cognitive load might seem to make learning a game easier” instead participants noted that the introduction of strict rules enforcement limited their understanding of the game (Loring-Albright, 2022, p. 120). Introducing the *Arena* rules engine initially appears to be a way to make the complex play of *Magic* more approachable, however, in its implementation and the way information is presented to players shapes their understanding of how the game plays which may drastically differ from how that experience would play out in an analog space. However, what it does do for experienced players is reduce the friction during interactions with the game.

Interestingly, *Arena* also attempts to remediate parts of what Jan Švelch identifies as the “cultural layer” of the *Magic* platform (Švelch, 2016) through the inclusion of cosmetic items and a market place for buying and opening card booster packs. The implications of this inclusion are discussed more in depth in chapter three; however, I think its inclusion indicates an attempt to bring as much of the phenomenological experiences of *Magic: The Gathering* into the digital platform. Despite how much *Arena*, relies on the medium of the computer to function as an adaptation, it is still very interested in ensuring that the interface is as transparent as possible to facilitate the particular kind of play experience that it is seeking to provide. Plotting *Arena* on the remediation axis it would make the most sense to put it on far on the side of immediacy because it is focused on the experienced of “playing with paper” while acknowledging its digitally mediated experiences. Similarly, *MTGO* can also be placed on this end of the spectrum for its similar approaches to adaptation. However, while *Arena* is a bit more straightforward of an adaptation, and mirrors similar approaches taken previously, there are other ways of approaching adaptation that are concerned with different kinds of play experiences.

As a desire for this type of digital play has grown, thanks in part to the COVID-19 pandemic, other approaches to playing *Magic* remotely have emerged over the past decade. Among these is *Spell Table*, which launched in early 2020 and was acquired by Wizards of the Coast that same year. *Spell Table* is an augmented reality web application for playing *Magic* that utilizes the affordances of the networked game client to allow players to play online using webcams. The appeal of *Spell Table* is that players are able to use their own cards to play the game allowing the material tactility of sitting down to play *Magic* with their friends. *Spell Table* is more than just a utility that lets players point webcams at cards to play online. What makes



*Spell Table* truly a digital adaptation in my eyes is the way it seeks to enhance the experience of playing in this format. The augmented reality features of the client allow for information to be displayed such as life totals and an updating timeline of cards that have been played through an optical card recognition system. These systems similarly reduce the cognitive load for players, yet do not include the same rules enforcement engines as *Arena* and other digital adaptations. Both *Arena* and *Spell Table* attempt to recreate a similar experience through differing approaches. Where *Arena* attempts to recreate *Magic* in an entirely self-contained digital ecosystem that utilizes all the advantages available to a digital client to streamline play, *Spell Table* emphasizes the physicality and materiality of *Magic: The Gathering* and its associated community practices. I do not argue that *Spell Table* is far at the hypermediacy end of the axis, however. While it does visibly rely on the computer interface, it is primarily focused on allowing players to play directly with the familiar paper interfaces of *Magic*. In many ways it is almost a more immediate adaptation than *Arena*.

In contrast to *Spell Table*'s hybridization of the tabletop and *Arena*'s streamlined play, Berserk Games' *Tabletop Simulator* recreates the table in a digital space. *Tabletop Simulator* is not quite an adaptation of *Magic*, rather it is a digital platform that provides a library of digital components and modding tools in order to allow players to recreate any number of games. Since its release in 2015, *Tabletop Simulator* has become one of the primary ways to play board games online and is widely used by both players and designers for its versatility and speed through which games can be implemented and prototyped. The goal of *Tabletop Simulator* is not to make playing the game streamlined, though it can be through effort and judicious use of its built-in scripting tools. Instead, it revels in the chaotic, awkward, clunky, material representations of

its physics based interface. *Tabletop Simulator* follows in the footsteps of the fumblecore style simulator games, like Bossa Studios' *Surgeon Simulator*, and despite gradual moves towards usability the game still features a "flip table" button and has a tendency to fling pieces across the virtual environment if you put it down incorrectly. It is entirely possible to play *Magic* in *Tabletop Simulator*. There are several implementations of *Magic* on the platform with varying degrees of sophistication and *Tabletop Simulator* includes a variety of tokens, markers, and dice that are often necessary for playing analog *Magic*. However, as the *Tabletop Simulator* name suggests, the focus of the experience is on the material components of the game, not on the games themselves. Loring-Albright notes player motivations for selecting the *TTS* platform over others in the ability to play with any cards in a cost effective manner and to play formats not supported by first party platforms like *Arena*. *Tabletop Simulator* leans trends towards hypermediacy because, while it can replicate the experience of playing *Magic*, the interface highlights the mediating layer of the computer and revels in the affordances of its digital simulation.

There is one more adaptation, or rather series of adaptations, that I want to discuss before complicating the single remediation axis. *Magic: The Gathering Duels of the Planeswalkers* is a series of digital *Magic* adaptations developed by Stainless Games and released between 2009 and 2015. Some of these limitations were lifted for Duels 2014 which introduced sealed play, where players construct decks from a limited pool of cards obtained via booster packs containing a certain amount of cards, and Duels 2015 which allowed players to create custom decks. These changes brought the games more in line with analog *Magics* economic systems. *Duels* was originally released for Microsoft's Xbox 360 on the Xbox Live Arcade and eventually was

released for Windows and Sony's Play Station 3 a year later. Later titles were released on both consoles, Windows PC, and eventually mobile devices. Because the initial release targeted at the Xbox Live Arcade the development team at Stainless needed to reimagine *Magic* as an arcade game that "needed to simplify the game in a few keys ways (sic) without losing its essence" (Buckland, 2009). Some of these changes meant limiting the options for deck building. Unlike paper *Magic*, players are given a selection of pre-constructed decks and can unlock cards that can be swapped in and out. Additionally, there are limits on the number of copies of a card that can be included in a deck. By 2009, *Magic* had standardized the rule allowing for a maximum of 4 copies of a single card, excluding basic lands. *Duels* games generally follow the standard MTG deck building rules with the exception of their limited customization and card restriction based on rarity. While you can play a maximum of 4 copies of common cards, only 3 copies of a given uncommon, 2 of a rare, and 1 of a mythic are allowed to be included in each deck. Some of these limitations were lifted for *Duels* 2014 which introduced sealed play, where players construct decks from a limited pool of cards obtained via booster packs, and *Duels* 2015 which allows players to create custom decks.

In addition to simplifying deck construction, *Duels* was designed with the imagined "casual player" in mind. Designers at Stainless stuck to the question "How do average 'casual' players play *Magic*?" (Buckland, 2009), which led to the decision to abstract concepts like the stack, priority, and the mana pool in an attempt to streamline the play experience and functioned closer to how they imagined casual players experience the game. As such the idea of priority was scrapped in favor of a first-come-first-served approach to instants, activated abilities and other combat tricks. In this model, the first player to declare their intent gets to act first.

Buckland and the other designers identified that some casual players playing paper *Magic* interact with the stack in priority in a way that mostly ignores the card timings and orders of operations until a situation comes up where the order of resolution matters. In casual paper play, this process occurs retroactively, assuming players are familiar with the stack (Buckland, 2009). *Duels* hides the ordering and operations of the stack behind a processing delay by using various visual effects, which has an extra intended outcome of making the game feel more in line with the sensibilities of digital game feedback systems (Buckland, 2009). While the stack was more openly implemented in *Duels* 2013 and depicted visually as necessary, its functionality is only mentioned briefly in the tutorial and rules tab. The interface for the duels themselves is similar to what we see in *Shandalar*. The players are presented with a central playing field, and separate zones to represent the player's hands, libraries, graveyards, etc. Likewise, the game tracks the number of cards remaining in hand and in libraries. However, in order to reduce complexity, the decisions about what mana sources to tap are made for players by the game, until *Duels* 2013 which emphasized multi-colored deck archetypes. The ultimate goal of *Duels* is that it maintains the complexity of *Magic's* rules and systems, while making the systems for play invisible to the players. This intent is supported by the technical design of the software which separates the *Magic* engine from the interface of the game, alongside several design decisions that limit the kinds of decisions players are allowed to make. For a dueling interface, players are presented with a central playing field and separate zones to represent a player's hands, libraries, graveyards, and other locations specified by the game. The game also tracks the number of cards remaining in players' hands and decks. However, in order to reduce the complexity, decisions about what mana sources used to play cards are made for players by the game, until *Duels* 2013

which emphasized multi-colored deck archetypes and these decisions were more important. The ultimate goal of *Duels of the Planeswalkers* is to maintain the complexity of *Magics* rules and systems, while making the systems for play invisible to the players, meaning that it lands somewhere on the immediacy side of the remediation axis.

### Ludic and Thematic adaptations

The *Duels* series of games are have been chosen for analysis at this juncture is the degree to which it brings in *Magic: The Gathering*'s thematic and narrative storyworld. In addition to being an interface for playing *Magic* digitally, the *Duels* games feature a narrative campaign mode wherein players can play against Wizards of the Coast's original characters known as Planeswalkers. The narrative conceit of *Magic* is discussed more in depth in chapter two, but it is important to understand in brief here. *Magics* thematic and narrative framework place players in the position of powerful wizards called Planeswalkers and each game of *Magic* is ostensibly a contest between two planeswalkers. In addition to this, *Magic: The Gathering* has an expansive transmedia storyworld which features a large cast of recognizable characters including other Planeswalkers. In the *Duels* series players have the opportunity to battle with and learn about these characters in a way that isn't present in the adaptations discussed previously. *Arena*'s only hints at theme are the player portraits and cosmetic items that can be displayed during matchmaking games and the tutorial fairy which teaches you the basic rules of *Magic*. While I agree with Loring-Albright and Stolee's general approaches to adaptation, I find that they have no way of examining this thematic dimension of analog to digital adaptations. Perhaps I have

buried the lede somewhat, however the next few adaptations complicate the process of adaptation in an interesting way related to the affective dimensions of *Magic: The Gathering*.

In 1997 MicroProse released their officially licensed *Magic: The Gathering* (1997) computer game, which I will refer to by its colloquially accepted name *Shandalar* for the sake of clarity. In reality, this software contains a number of programs including an engine for playing *Magic* on the computer, a deck builder, and the *Shandalar* game campaign itself. A later 3.0 version of the game was released in 1998 as *Duels of the Planeswalkers* – not to be confused with the series of games released between 2009-2015. As an adaptation *Shandalar* is an important step because it was the first attempt at bringing *Magic* to digital platforms. In the forward to *Shandalar*'s instruction manual, Richard Garfield states his vision for *Shandalar* as a “platform on which players can play over the internet” (pIV), where “players will be able to participate in tournaments and leagues and trading from their home (or work, or school!)”. Garfield also identifies the potential for the game to be expandable and incorporate *Magic* sets and expansions moving forward. While this vision for *Shandalar* was only partially fulfilled with the introduction of ManaLink, included with the 3.0 release of the game in 1998. However, this utility would be replaced by *Magic: The Gathering Online* in 2002. The *Duels of the Planeswalkers* series would further expand upon Garfield's vision with yearly releases and the industry adoption of Downloadable Content (DLC).

In *Shandalar*'s campaign players play as a novice spellcaster attempting to prevent powerful wizards from casting the Spell of Dominion allowing the ancient evil Arzakon to take control over the plane of *Shandalar*. Gameplaywise *Shandalar* is an adventure roleplaying game that allows the player to wander the world and battle enemies. Combat in *Shandalar* plays out as

an actual game of *Magic* between the player and the creatures they encounter using the full implementation of *Magics* rules included in the software. Shandalar's approach to the narrative elements of *Magic* places it firmly in line with the narrative framework of that says when you play a game of *Magic*, you *are* a planeswalker. Shandalar leans even further into positioning the player as a character within the story of *Magic* than its analog source. Shandalar even draws on the metagame elements of *Magic*, as collecting cards and constructing more powerful decks is an essential part of the gameplay experience. While the "ante" card mechanic was removed and associated cards banned from sanctioned play in 1995, Shandalar includes it as a way to earn cards through dueling other creatures. Shandalar even goes so far as to simulate a community of *Magic* players, letting you buy, sell, and trade cards with non-player characters.

The play interface for Shandalar fluctuates between the overworld map, called "the big screen" in the manual, and the dueling windows which provides a third person view of the player character wandering the map in addition to UI elements which allow the player to view their current stats, check their inventory, and edit their decks, among other things. The duels themselves on the other hand are made up of several windows that contain your hand, your deck, information about what turn phase it is, and other game state information. These elements and the central area where played cards are displayed is collectively referred to as "The Dueling Table", specifically evoking the feeling of a game being played at a table. Much of the cognitive load, such as tracking mana, cards remaining in player's decks and hands, spell resolution, prompting reactions during phase changes and as opponents pass priority, and so on is handled by the MTG engine implementation. Shandalar operates by *Magics* 5<sup>th</sup> edition rule set, meaning that it still uses the batch system for resolving player actions and card effects.

However, *Shandalar* adds many RPG elements that break the normal rules of *Magic*. Notably, in order to have the player progress from a novice spellcaster into a planeswalker capable of stopping an all-consuming evil, the player starts with an incomplete deck made up of a handful of relatively weak cards. As they explore, defeat enemies, and meet NPCs they acquire more and more powerful cards to customize to their preferred playstyle. Additionally, there are outside factors that can impact the course of a duel, including some effects caused by geographic locations related to the colors of mana as well as some non-card items that can be used to gain advantages. Lastly, *Shandalar* leans into the idea that the cards are spells to be cast by having several that can be used outside of duels. As an adaptation, the interface for playing the card game is constrained by the affordances of computing at the time yet it still functions similarly to the dueling interfaces in *Arena* and *Duels*. However, instead of merely settling for a streamlined interface for playing *Magic*, *Shandalar* highlights its digital game nature by foregrounding and expanding upon the thematic experiences of *Magic*.

*Shandalar* is not the only game which has an increased focus on the thematic elements of *Magic*. Around the same time as *Shandalar*'s release, Acclaim released their take on a *Magic*: *The Gathering* themed real time strategy game called *Magic: The Gathering Battlemage*. *Battlemage* was released for both Windows PC and Sony's PlayStation. Rather than being a game which allows players to play *Magic*, it instead focused on letting players play in the world of *Magic* by placing players in command of an army of creatures and characters. There is little reference to the card game beyond a difficult to use unit selection and command interface that used the visual language of cards to evoke the relationship. Additionally, Cryptic Studios announced *Magic Legends*, an action roleplaying game in the style of Blizzard Entertainment's



*Diablo*, in December of 2019. Like *Shandalar*, *Legends* has players explore a world map fighting enemies and completing quests. Instead of dueling difference is that *Legends* does not include playing the card game and instead players cast spells from a cycling library that they assemble using cards collected during gameplay. Neither game was immediately well received.

*Battlemage* was panned by critics at the time who cited the difficult to use controls and unfair AI opponents (Blevins, n.d.; Boor, n.d.). In 2020 Cryptic announced that *Legends* was being discontinued only three months after its initial release following fan backlash regarding monetization strategies and online infrastructure issues. While neither of these games allow you to play *Magic: The Gathering* the card game, they are still undeniably *Magic: The Gathering* video games. Instead of adapting the ludic elements of *Magic*, the approach to adaptation used by these games is focused on the thematic elements by letting players play within the universe of *Magic*.

The hybrid approach to adaptation featured by *Shandalar* and the purely thematic approach from *Battlemage* and *Legends* complicates theories of adaptation complicates the single axis of remediation. Neither Loring-Albright's nor Stolee's frameworks for adaptation adequately account for this kind of adaptation. Part of what complicates the matter is the question of, to what degree are the thematic elements of a game identifiable in the experience versus the ludic and mechanical? That is to say, adaptations of *Magic* such as *Shandalar*, drastically alter the way players interact with the game but also embellishes and pushes the thematic. Hutcheon's theory of adaptation is primarily interested in the textual elements of a work and how an adaptation exists in relation to the work being adapted. The thematic elements of *Magic* are an integral piece of the text. *Shandalar*, *Duels of the Planeswalkers*, and *Arena* all

develop a new mediating layer on top of the expected experience of *Magic*, which in turn alters how the game is played. Yet these are all still recognizable as “*Magic*.” In this regard I do not see Loring-Albright’s interpretation of “adaptation” and “remediation” as mutually exclusive processes, rather, they are processes that co-constitute an encompassing process of adaptation. In order to account for this other dimension in adaptation there needs to be a second axis.

The Ludic/Thematic axis describes an affective and aesthetic dimension of adaptation. As the name suggests, at one end of the axis are games that are predominantly concerned with adapting and preserving the ludic experiences of playing *Magic*, while at the other end are the approaches to adaptation which foreground the ludic elements. To derive this axis I began with Cameron Kunzleman’s framework of affective and subjective adaptation. Kunzleman argues that “adaptation across digital media often requires some of the strategies that remediation gives language to” (Kunzleman, 2016, p. 3), complicating the relationship between adaptation and remediation. In particular, Kunzleman argues that theories of remediation can be supplemented by Manuel DeLanda’s assemblage theory to look across the structures and scale of media. Combining assemblage theory and remediation “ means understanding adaptation as both a relationship between two objects (the original and the adaptation) and a relationship between two things and an entire realm of objects that press upon them” (Kunzleman, 2016, p. 6). This means understanding *Magic: The Gathering* as not just cards and a set of rules, rather, thinking about *Magic* as an analog game platform, a transmedia property, and an entire media industry which rub against each other to give rise to the conditions where these digital adaptations emerge.

Kunzelman's analysis deals with film to video game adaptations specifically. He argues that these adaptations operate through affective and subjective registers that, while not mutually exclusive, rely on different modes of expression and representation to operate. Kunzelman refers to these as subjective and affective adaptations. The subjective adaptation "involves placing players within a specific subject position", meaning that the adaptation is interested in giving players the experience of a character within the world of the original film, while the affective adaptation is interested in "delivering a particular ephemeral feeling" associated with the world or theme of the original work (Kunzelman, 2016, p. 3). Kunzelman describes affect as the intensities of sensation flowing between bodies that "does not require a subject but merely a (drastically) expanded notion of the body" (Kunzelman, 2016), while Aubrey Anable from another perspective uses affect in her analysis of video game assemblages to refer to "aspects of emotions, feelings, and bodily engagement that circulate through people and things, but are often registered only at the interface" (Anable, 2018).

However, this framework is limited in that it does not (and was not necessarily intended to) account for analog to digital adaptations. The trouble with establishing subject positions for analog games is that players occupy a split subjectivity, even more so than other interactive mediums. Paul Wake identifies the way that ludic and material actors interact to facilitate immersive experiences for players (Wake, 2019). While Wake couches his argument in terms of immersion, I want to distance myself from claims of immersive experiences. My reasoning being that board games do not seek to be immersive, rather they mediate specific affective responses through the combination of theme and mechanics. That being said, Wake's use of immersion points to the way affect produces subject positions within analog games. Wake says that the

components of analog games “anchor the player within the horizon of the gameworld” while at the same time “gesture to the world of the player” prompting an oscillation between subject positions (Wake, 2019). This indicates two subject positions that players occupy simultaneously. One as characters in the diegesis of the game. Similarly Daniel Vella notes that “the subject-position into which the player is cognitively recentered takes on a specific quality, being defined by the necessity for the player to actively engage with the game world from her position within it.”(Vella, 2013). However, this framework is limited in that it does not (and was not necessarily intended to) account for analog to digital adaptations. The trouble with establishing subject positions for analog games is that players occupy a split subjectivity, even more so than other interactive mediums. Paul Wake identifies the way that ludic and material actors interact to facilitate immersive experiences for players (Wake, 2019). While wake couches his argument in terms of immersion, I want to distance myself from claims of immersive experiences. My reasoning being that board games do not seek to be immersive, rather they mediate specific affective responses through the combination of theme and mechanics. That being said, Wake’s use of immersion points to the way affect produces subject positions within analog games. Wake says that the components of analog games “anchor the player within the horizon of the gameworld” while at the same time “gesture to the world of the player” prompting an oscillation between subject positions (Wake, 2019). This indicates two subject positions that players occupy simultaneously. One as characters in the diegesis of the game. Similarly Daniel Vella notes that “the subject-position into which the player is cognitively recentered takes on a specific quality, being defined by the necessity for the player to actively engage with the game world from her position within it.”(Vella, 2013).

In *Magic* this is their role as a Planeswalker engaged in a battle with their opponents, who are also Planeswalkers (the way this is presented and evolves is discussed further in the next chapter). The other is that of the player sitting at the table playing the game. Which necessarily runs into both the players' social context and their role as part of the computational assemblage of the analog game, responsible for executing and enforcing the rules of the game. For *Magic*, this encompasses how the players materially engage with the with the interface of *Magic* and the affective experiences of playing *Magic*. Subjective and affective elements cannot simply be placed on opposite ends of the axis to represent analog to digital game adaptations. This is partly because, when playing an analog game, we occupy multiple subject positions that are regularly invoked and actively relied upon. For example, *Arena* is an attempt to adapt the player subject position with little thought to the thematic elements. *Legends* and *Battlemage* on, on the other hand exclusively adapt the thematic subject positions, while *Shandalar* relies on an amalgamation of both the thematic and ludic affects and subject positions. Further, Booth argues that the meaning-making processes in a board game comes from “the tension between an authorial presence and audience play” (Booth, 2015, p. 17) whereas a paratextual game based on the subject positions within a film “closes up gaps within the narrative” (Booth, 2015, p. 15). It is unclear which experiences are being adapted with each approach. Being able to describe adaptations on the scale between ludic and thematic lets us account for which of the many affective subject positions the game is attempting to replicate.

There is an additional element that can be described through the Ludic/Thematic axis that is not necessarily as explicitly obvious through the name. Loring-Albright introduces a useful term to the conversation, describing the degree to which a game's rules and systems have a kind

of “Ontological Unity” between their analog and digital versions. Ontological unity refers to the idea that players “ “understand their rules competency will transfer” between versions of the game regardless of the visual representation of the components. (Loring-Albright, 2022, p. 25). For Loring-Albright, the digital version of a game falls short if “a player who has a given level of competency at an analog game does not possess that same level of competency at a digital version” (Loring-Albright, 2022, pp. 25–26). Put simply, Ontological Unity of a game and its adaptation, is dependent on the degree to which players recognize the mechanical identity of a game – and the degree to which they are able to execute their algorithmic approaches within an adaptation. This does not account for games where players struggle because of unfamiliarity with the interface. There is a correlation between games that maintain a high level of ontological unity and games that are focused on being primarily ludic adaptations. For example, there has been a lot of work to ensure that *Arena* and the current set in paper *Magic* function in the same predictable ways. The result of this has been ongoing development to ensure that *Arena* can handle any of the card mechanics and interactions that have been established with the caveat that some cards in analog *Magic* have had their rules tweaked to function more in line with the way *Arena*’s rules engine interprets them. *Tabletop Simulator* and *Spell Table* both also maintain high degrees of ontological unity, perhaps even more so than *Arena* because they both still rely on the players to execute rules and handle the task of computation themselves. Similarly, the paired down rulesets and deck building restrictions that are implemented in the *Duels of the Planeswalkers* series differs enough from the rules of analog *Magic* that there are moments where ontological unity breaks down. However, all of these games, despite the differences in their approach to remediation exist in the primarily ludic dimension of the second axis.

On the other hand, games like *Legends* and *Battlemage* have incredibly low levels of ontological unity. The gulf is so severe that if ontological unity were the only measure of an adaptation's success, they might be considered failed adaptations. However, what they successfully do is create a paratextual environment where players can play in and engage with the thematic world as a character in that world. The mechanics of these games would be entirely unfamiliar to players coming to them expecting a ludic adaptation of *Magic*. These two games exist entirely on the thematic end of the spectrum. *Shandalar* on the other hand is a more complex case. It not only includes a full implementation of the version of the rules that was current at the time, but it also includes an additional mediating layer through the adventure roleplaying game. Despite the limitations of the engine, *Shandalar* combines both a ludic and a thematic approach to adapting *Magic*. It falls somewhere near the center of the thematic and ludic axis.

Interestingly, *Shandalar* falls near the center of both the remediation axis and the Ludic/Thematic axis making it a good point of comparison as any. Compared to every other attempt at adaptation, *Shandalar* merges roleplaying game elements with the expected card game gameplay. As it is also the first digital adaptation of *Magic*, it occupies an interesting historical position from which to act as the point of comparison. It occupies a place in the rapidly evolving PC gaming market of the time and so aimed at following the design conventions of the space, which led to the roleplaying game layer of the game, while still being an adaptation of *Magic* that analog players would recognize. From here we can see how the trajectory of *Magics* adaptations has moved steadily in the direction of giving players a way to play these games online with other people. This is particularly apparent with *MTGO* and *Arena Duels* is an

interesting case because it not only wants to allow people to play *Magic* digitally, but it wants to introduce players to the original planeswalker characters introduced by Wizards of the Coast. This moment indicates a split between the thematic and ludic elements of *Magic* and culminates in the drastically different directions taken by *Legends* and *Arena*.

Mapping adaptations across these two axes allows us to describe a multi-level taxonomy that identifies a number of trends that emerge and can be used to describe the attributes of digital-analog game platforms that facilitate certain approaches to designing and developing analog to digital adaptations. Adaptation mapping alongside with the previously described discourse analysis allow for a critique of adaptations' "overall effort in terms of initial objectives, designing process, and broader cultural implications" (Balsamo, 2011, p. 15) and examines the "possibilities for rearticulating (or reassembling) different meanings" (Balsamo, 2011, p. 16) of digital adaptations of analog games as technocultural artifacts. When the theme of a game is inextricably tied to the manifestations of its interface, thematic adaptations are by necessity a product of remediation and tend to lean into the affordances of the digital platform to represent thematic and narrative elements. This means that more thematic adaptations will generally be more hypermediated. Meanwhile, more ludic adaptations attempt to foreground the experience of playing the game by not only erasing the gaps between the original and the adaptation, but also by maintaining a high degree of ontological unity with the original. These tend towards the immediacy end of the spectrum. This exposes gaps in mediation and impacts the relationship to the material assemblage of the game. This is not a hard and fast rule by any means, however, and even within *Magic: The Gathering* adaptations there are exceptions to this rule. *Magic* the gathering implementations for platforms like *Tabletop Simulator* and augmented



reality remote play tools like *Spell Table* represent the exceptions falling at the hypermediated end of the spectrum with their highly visible approaches to mediation, while being products that explicitly focus on maintaining ludic adaptations of *Magic* with high degrees of ontological unity.

Adaptation mapping is a way of describing an adaptation's relationship to the original. Adaptation Mapping forms a typology which describes different approaches to adaptation by mapping them across two axes which describe an adaptation's tendencies towards hypermediacy or immediacy and thematic or ludic experiences respectively. One axis is derived from Bolter and Grusin's theory of remediation and is bounded by the extremes of immediacy and hypermediacy, which describes the degree to which a medium either highlights or erases the gaps in the interface's replication of its predecessor. The second axis is derived from analyzing the textual relationship between the game and its original combined with the affective and subjective positions of its players. This axis accounts for the aesthetic changes to the play experience and the degree to which an adaptation privileges the ludic subject experience vs thematic experiences. Adaptations' location on the graph created by these axes are not quantitatively defined, but rather are described qualitatively through technical and ludic analysis through which we can describe games as more or less immediate/hypermediated and more or less ludic/thematic. Examining an adaptation's relationship to each of these axes are described through material, technical, discursive, and ludic analyses through which we can identify the trends and tendencies. With this method we can describe the tension between an adaptation's desire to replicate purely ludic experiences and its willingness to incorporate the thematic elements of the original game. The affective to subjective adaptation spectrum is complicated by

the subject positions and affective elements that, while not unique, are made explicit in analog games in ways that trouble our understanding of the player-game relationship become even more apparent in analog to digital adaptations.

## CHAPTER 3: “ARE YOU A PLANESWALKER?”: THE EVOLVING SUBJECT POSITIONS OF *MAGIC: THE GATHERING*’S NARRATIVE FRAMEWORK<sup>1</sup>

### Introduction

In order to position this chapter closer to the experience of play, I want to start off with a brief story of two powerful wizards, known as Planeswalkers, and the conclusion of their epic battle. We begin in media res, with the Planeswalker Craig Jones facing down the samurai known only as the Hand of Cruelty accompanied by a risen Spirit sent by Olivier Ruel, another Planeswalker bent on Jones’ destruction. Low on resources and running out of strength Jones, in an act of desperation, launched a blast of flame towards Ruel, choosing to ignore the samurai and spirit. The dubious quality of the reagents used in Jones’ spell caused a backblast from the plume of fire, burning Jones and weakening him further as the samurai and spirit landed their blows. But the attack had landed. Both Planeswalkers were now drawing on the last dregs of their energy. Jones, completely out of options, dug deep into his library for one final prepared spell. “Slam it” taunted his opponent. To both planeswalkers’ surprise, a second jet of flame launched from Craig Jones burning away the last of Ruel and exiling him from the plane of Ravnica.

Those in the know might recognize this as the famous “Top Deck of the Century” which occurred during game five of a semi-finals match in the 2006 *Magic: The Gathering* Pro Tour event in Honolulu. The match was between Craig Jones and Olivier Ruel. This play became famous because Jones’ decision to take a huge gamble by playing Char, which deals four damage

---

<sup>1</sup> An early version of this chapter was published in the FDG '23: Proceedings of the 18th International Conference on the Foundations of Digital Games in April 2023 as “Igniting the Spark: Analog to Digital Adaptation of Narrative Affect and Player Subjectivity in *Magic: The Gathering* through Analog to Digital Adaptation”. Copyright has been retained by the author.

to the target and two to the caster, targeting his opponent rather than targeting either of the creatures that were attacking him. This brought both players down to three life points remaining. With no cards in his hand, the next card Jones drew from his deck would decide who would win the match. Prompted to “Slam it” by his opponent, Jones opted to flip the card immediately so they could both see it at the same time. As it turned out, it was another copy of Char, meaning that Jones won the match with one life point remaining. The reason that this moment can be told as a story is because of the affordances of *Magic: The Gathering*’s narrative systems and the thematic framework the game exists within. Each turn in a game of *Magic* can be constructed as a set of narrative events that are assembled and then executed by players guided by the rules of the game. Even if they aren’t actively thinking of their play as narrative, it still occurs because of the way *Magics* theme is framed and how it is tied strongly to the rules of the game. The story of the Top Deck of The Century is a narrative event in itself and it is a story so powerful that we are still talking about these real world planeswalkers having this duel 17 years later.<sup>1</sup>

Ever since its release *Magic* has relied on a variety of paratexts as part of its marketing push. In addition to the card game itself, the franchise of *Magic: The Gathering* includes a number of paratextual media such as novels, comics, web fiction, music albums, as well as a variety of analog and digital adaptations focused on its growing cast of characters. It is a transmedia franchise that utilizes its platform to engage players with its expansive storyworld. The narrative and thematic elements of *Magic* have always been an integral part of the games’ appeal and allure for players. Throughout this chapter I will examine the ways that *Magics* narrative is introduced into the game using the textual, discursive, and mechanical elements of the game’s design. Additionally, this chapter examines the narrative elements of *Magic: The Gathering*

through the algorithmic structures and thematic frameworks of the game. I examine the figure of the Planeswalker as a concept which is used to structure player understandings of their relationship to the game. I also examine how the mechanical and algorithmic properties of *Magic* as an analog game function to characterize Planeswalkers as player avatars and as characters on their own.. Then I examine the way the Planeswalker has shifted from being a subject position for the player to occupy to being marketable characters that Wizards of the Coast uses to broaden the storytelling apparatus for *Magic: The Gathering*. The trajectory seen in these games demonstrates the shift in the players' narrative subjectivity as characters to something more akin to an observer of narrative events in *Magic's* post-Planeswalker storyworld. There are three primary elements of *Magic: The Gathering's* design discourse that is important to for understanding how narrative play is made possible through the apparatus of the game. This includes the psychometric profiles that Wizards of the Coast has developed for the sake of creating what are essentially user stories that describe different things that players come to *Magic* looking for. Next is the way "flavor" is conceived within *Magic* as a kind of genre simulation. Finally, is the term Narrative Equity, which refers to the capacity for players to relay the events of a game.

### Defining the Player through Design Discourse

Defining the player is a central component of the design discourse that influences Wizards of the Coast's development process and the way that it is publicly communicated provides a key lens for the way that players understand the game design decisions that are being made. The discursive elements of *Magic's* design are deployed through the construction of player

profiles and archetypes which have become infamous within the *Magic: The Gathering* community. *Magic: The Gathering* lead designer Mark Rosewater introduced the psychographic profiles during his time working in the Research and Development group with the goal to create a set of profiles that describe player motivation and to “explain how different players are motivated by different criteria” (Rosewater, 2006) These profiles can then be used to measure the value each kind of player might get out of a specific card or set of cards. In their initial public introduction Rosewater introduced Timmy, Johnny, and Spike as the profiles the R&D team was designing for. Notably these profiles are primarily coded as masculine and are referred to with “he” and “him” pronouns throughout the designer blogs. Further, from gimmick cards that are printed, we see clearly that Timmy, Johnny, and Spike are imagined to be predominantly white in the early versions of these psychometric profiles. The imagined identities of these player archetypes have an effect on the design discourse that is enfolded into *Magic* as a technocultural object.

The first profile introduced is Timmy described as a player who plays *Magic* “because he enjoys the feeling he gets when he plays” (Rosewater, 2006). In other words, Timmy is a player who is attentive to the affective elements of the play experiences. These affective experiences that Timmy strives for are described across a range from seeking novelty to seeking social experiences through play. For these players *Magic* is a way to reflect a socially constructed version of themselves through their preferred approaches to play (Martin, 2017). The second profile is the flip side to the experiential affect sought by Timmy. Johnny is the psychometric profile that describes players who view *Magic* as “an opportunity to show the world something about himself, be it how creative he is or how clever he is” (Rosewater, 2006). For these kinds of

players, it is in the construction of the deck, the use of accessories to customize the visual appearance of their cards, and other ways that *Magic* can be used as a vehicle for expression. The final of the big three player profiles is Spike, which describes players who “sees the game as a mental challenge by which he can define and demonstrate his abilities” (Rosewater, 2006). These players are interested primarily in the ability to optimize their gameplay with the goal of winning; The approaches taken by Spike players may be different depending on what interests them. The spike player is more likely to examine game actions in terms of “good” or “bad” as it pertains to winning. It is worth pointing out, however, that none of these psychographic profiles are mutually exclusive and Rosewater does some work describing the ways these player motivations overlap and intersect in different ways.

There are two profiles that were introduced later that aren't considered by Rosewater to be a part of the player motivation spectrum. Vorthos and Melvin – later changed to Mel - are used to describe the ways players “appreciate” the game, or to use Rosewater's words “it focuses on what he likes about the game” (Rosewater, 2007a). Unlike Timmy, Johnny, and Spike, Melvin and Vorthos are used to describe a secondary layer. Of particular interest is “Vorthos” an archetype coined by designer Matt Cavotta in 2005 in an entry of his weekly column for *MagicTheGathering.com* from , “Snack Time with Vorthos”, as a player who is enamored with the thematic and narrative aspects of the game, possibly even more so than playing the game to win. Cavotta describes Vorthos as the kind of player:

“who never puts more than one of any legend card in his deck because ‘it just wouldn't be right.’ He's the guy who will only play with the Icy Manipulator from *Ice Age* because it's the one they call the “Bone Crank.” He won't play with the *Fallen Empires* cards with the

stinky alternate art. Vorthos is the guy who started collecting cards because he liked the art, then read some *Magic* novels, then saw his favorite characters appear on some cards and decided to learn to play. There are a lot of Vorthoses out there. Some collect cards but might not even play. Some have a hoot getting artists to sign their cards. Some don't read flavor text 'til after they finish the novel in case it might spoil the ending.” (Cavotta, 2005).

The defining characteristic of players described as Vorthos is the understanding that “*Magic* can be fun even when you’re not playing the game”(Cavotta, 2005). Vorthos represents an affective connection to the cards, which Rosewater describes as a kind of intuitive perception about the way certain cards “emotionally resonate” with the player and how they judge “based on how every piece interacts with one another” (Rosewater, 2007a). The example Rosewater uses in his explanation of Vorthos is a particularly apt example. Form of the Dragon is a red enchantment spell. The art depicts a humanoid creature mid transformation into a dragon. Its effect text reads “At the beginning of your upkeep, Form of the Dragon deals 5 damage to target creature or player. At the end of each turn, your life total becomes 5. Creatures without flying can’t attack you.” The reason this card is interesting to Vorthos players is that it interacts with the player as though they were a part of the game. It reflects a casting of a spell which transforms them into a dragon. The reason this card is so evocative, particularly for some players, according to Rosewater is that “all the pieces are working in conjunction with one another.” The fantasy of *Magic* is a draw for players, some of whom describe the engrossment and absorption into the world of *Magic* a central part of their enjoyment and reason for playing the game and the thematic facilitate this collective imaginary among the community of players (Martin, 2017).



Vorthos players cement the importance of the theme and ability to construct a world and actions which can be performed within it.

The Vorthos player profile brings up the idea of flavor, the second part of *Magics* design discourse. According to lead narrative designer Doug Beyer, *Magic* relies on the concept of “flavor” to guide *Magics* “constructive simulation” of the fantasy genre. In 2010 Beyer writes: “Flavor is a kind of simulation. In the abstract, simulation is when something is being imitated or reenacted” which is intended to replicate the characteristics of the form (Beyer, 2010). For *Magic*, flavor describes a set of design principles which guide “a recreation with the goal of coming up with a likeness or model” (Beyer, 2010) that becomes folded into the discourse of *Magics* design processes and the act of engaging with *Magic* as a media object. Flavor is an important aspect of *Magics* design discourse because it ensures that cards that are introduced are internally consistent with *Magics* storyworld.

Flavor is included in the game through a variety of ways. The most obvious is Flavor text featured on cards. Flavor text is usually a description of quote included in some cards’ text boxes which give a description to contextualize the actions of the card, it is “analogous to intertextually, citing and rounding out other cards, adding context from conflicts and such” (Crutcher, 2017). Take for example the Flavor text on the version of Char that would have been used at the 2006 Pro Tour. The flavor text says “Izzet mages often acquire their *Magic* reagents from dubious sources, so the potency of their spells is never predictable.” The intertextual reference here indicates Izzet Mages, spell casters who belong to the scientifically curious Izzet Guild on the plane of Ravnica. Flavor text referencing Izzet tends to be featured on Blue and Red cards and indicates an instability of their particular flavor of spell casting. This is then supported

by the simulation aspect of *Magics* approach to flavor through the mechanical implications of the card. Namely, using unstable reagents to cast a damaging spell that also has the additional effect of dealing damage to the player who cast it. This intertextual storytelling is evidenced in a variety of community practices such as the idea of a “flavor win” where a card interaction is deemed to be particularly flavorful based on the context presented by the cards’ flavor text or art. It is also sought out in silly combinations where the mechanical effects of cards are evaluated together. Another example is the Twitter account @FlavorJudgeDraw which takes community suggestions to draw simple visualizations of the mechanical interactions.

Player motivation and flavor are also important elements of Narrative Equity. Narrative Equity is a term coined by *Magic: The Gathering* head designer Mark Rosewater to describe the ability of players to “give weight to choices based upon the ability to later tell a story about it”(Rosewater, 2018a). Narrative equity facilitates recording the story of a game of *Magic*. It can be a flavorful retelling to convey interesting mechanical interactions as with flavor wins or it can be an account of how a game played out. Either way, this indicates an interest in giving players the ability to narrativize individual games of *Magic*. Whether it is done in the way that I do at the start of this chapter or in a more straightforward mechanical way, Narrative Equity describes ways that players engage in both ludo-textual and ludo discursive processes when playing *Magic*.

Another way of describing *Magic* in this light is through Anne Sullivan and Anastasia Salter’s taxonomy of narrative centric card and board games which describes different kinds of storytelling formulations based on how dynamic the order of story events is in relation to the level of control players have over the events. In particular Sullivan and Salter describe Story Crafting Games as those in which the occurrence and order of story events are determined by the

player who are “are provided with a general narrative structure and evocative elements from which they can construct a greater sense of meaning” (Sullivan & Salter, 2017). Story crafting games rely on player interpretation alongside events and thematic elements included in the components that “provide just enough detail to inspire” and “storied gameplay works due to the ambiguous nature of the cards allowing the players to create their own story events in a dynamic order. “(Sullivan & Salter, 2017, p. 4). Both narrative equity and the concept of the story crafting game describe ways of approaching emergent narrative. Emergent narrative requires an interplay between player goals, the locations which are prescribed within the game, and the player interactions in between them (Walsh, 2011). *Magic* provides players with a strong narrative frame – “You are a planeswalker!” – a thorough presentation of the world through flavor and art, and strongly defined interaction through which to interpret the events of the game.

### Magics Narrative Framework

Planeswalkers have a long history of being used as stand ins for the players within the world of *Magic: The Gathering* and have been used to structure play and provide a thematic framework for teaching the game. In the world of *Magic: The Gathering*, Planeswalkers are powerful wizards who travel through the planes of Domina’s multiverse. These Planeswalkers are able to draw power from the land around them to cast powerful spells that allow them to summon allies, attack, defend, or perform any number of other *Magical* feats. The Planeswalkers’ relationship is defined by their conflicts with one another in the form of duels. In the context of *Magic: The Gathering* the trading card game, the players are positioned as

Planeswalkers and when they play a game against each other, it is effectively a duel between Planeswalkers. In the *Pocket Player's Guide for Revised*, published in 1994, the chapter introducing the rules for the Revised edition of *Magic* begins with “*Magic: The Gathering* is a game of battle in which you and your opponent represent powerful sorcerers attempting to drive each other from the lands of Domina. Your deck holds your tools: creatures, land, spells, artifacts.” (Wizards of the Coast, 1994). In the 1995 edition of the *Pocket Player's Guide for Magic's Fourth Edition*, places this same declaration in the introduction, telling readers “You represent a powerful wizard battling for control of a plane of Domina. The object of the game is to drive your opponent from the plane, leaving you with sole control” and further enforcing that each distinct game is “an arcane duel” to “determine who remains in Dominia”(Wizards of the Coast, 1995). The Fall 1994 issue of the *Duelist* features an article introducing variant ways to play *Magic*, written by designer Shawn F. Carnes, begins by saying “In *Magic*, players assume the role of Planeswalkers, powerful wizards roving the multiverse of Domina and clashing in its myriad of realms” (Carnes, 1994a). The purpose of Carnes’s article is to introduce additional ways of playing *Magic* that “brings some of these realms to life, offering background and motivation for a duel, and challenging duelists to adapt to an unusual environment” (Carnes, 1994a).

The figure of the Planeswalker within *Magic* function similarly to the way that scholars and designers have conceptualized avatars within video games. To distinguish avatars from simply characters in a game, Adrienne Shaw describes avatars as “the visual, digital embedment of the player in the game world...the term avatar implies self-representation” (Shaw, 2011). Pitching players as characters within a world invokes the same draw as roleplaying games, which

were a burgeoning section of the analog gaming community by this time and served to draw attention to the game through the auspices of theme. Later in the same Fall 1994 issue of *The Duelist*, Carnes wrote in an article discussing deck building techniques in Wizards of the Coast's newly released third Deckmaster game, *Jyhad* – later renamed *Vampire: The Eternal Struggle* in 1995 and eventually sold to White Wolf in 2000. Carnes began the article discussing his approach to *Magic*, “In *Magic: The Gathering*, I pretend I’m a wizard engaged in a duel. I’ve been in enough roleplaying games to get an idea of how a wizard might think and act, and I really believe it helps. I try to think as a wizard would, plotting my opponent’s *Magical* demise” (Carnes, 1994b), he then goes on to explain the power of these kinds of perspectives in card games can lead to insights into how to play the game and construct decks.

The approach to *Magic* as a roleplaying game is again found in Richard Garfield’s Notes from the Designer Section of the Fourth Edition Pocket Guide where he notes “the more free-form game, however...embodies some interesting elements of roleplaying” (Garfield, 1995). Garfield’s insight into the ability of the game to tell stories is canny as he notes that “each player’s deck is like a character. It has its own personality and quirks” (Garfield, 1995). Shaw points out that “the ludic aspects of games often cause players to be too self-referential to take on the role of their character”(Shaw, 2011) and so identifying the decks as characters is perhaps more of a recognizable phenomenon for players rather than viewing themselves directly as Planeswalkers. In an examination of the literary elements of *Magic: The Gathering* Paul Crutcher makes the point that “The player’s deck is designed and meant to be “read” in a particular way, and during that play that understanding is tested. Players return to the deck with an evolved understanding of the authorial structuring of *Magic* cards, the participatory authoring

of the deck(s) and the resulting narrative play” (Crutcher, 2017) This construction of a Planeswalker falls within Daniel Kromand’s taxonomy of avatar types as a “central-open” type avatar, typically found within roleplaying games. Within Kromand’s framework a central-open avatar type necessitates a “thorough knowledge of the game mechanics” because players “have to make choices for the avatar based on this knowledge”(Kromand, 2007). The connection here is the idea that part of the expression of the Planeswalker on the part of the player is within the decisions made during the construction of their deck. The central-open avatar archetype is reliant on a level of openness that Kromand identifies as common in tabletop roleplaying games.

Garfield again notes that:

“As in roleplaying, the object of the game in the unstructured mode of play is determined largely by the players. The object of the duel is usually to win, but the means to that end can vary tremendously. Most players find that the duel itself quickly becomes a fairly minor part of the game compared to trading and assembling decks.” (Garfield, 1995).

The construction of a deck in *Magic* allows players to essentially construct a version of themselves as a character, determined by what Vella identifies as the phenomenological “I Can’s” which structure the “player’s engagement with the gameworld”(Vella, 2013). *Magic* cards in this instance describe what the player is allowed to do through the inclusion of the textual rules that interact with the larger systems of *Magic*. Vella identifies that the affordances allowed a by an avatar “the player is placed in a specific subject-position in relation to the gameworld, in such a way the framing of the gameworld can be understood as the manifestation of a character’s point-of view” and as such the players interactions within the game constitute the enactment of that character (Vella, 2013). The framing of the player as a Planeswalker becomes

important within the narrative and ludic realms of *Magic*. In this way the construction of a deck in *Magic* is the mechanism through which a player functions, performs, and exists as a character within the *Magic: The Gathering*'s storyworld.

The *Magic* Pro Tour also had a hand in casting players as Planeswalkers, though perhaps not entirely intentionally. The Pro Tour Player Cards were included as pack-in for card packs and featured prominent pro players alongside stats, much like for other collectable sports cards. These player cards were a way for Wizards of the Coast to push players as celebrities within the community and “convey an aspiration potential in competitive *Magic*”(Knutson, 2023). However, Matt Knutson points out that including the pro player cards in *Magic* booster packs was not particularly well received by the community. Many players were confused and displeased with their inclusion, as they featured unfamiliar and had no ludic value. Randy Buehler says that the inclusion of Pro Tour Player Cards aimed “to help market the game because of its symbolic value – it’s much easier to show that *Magic* is a game where creativity and intelligence are rewarded when the rewards are measured in dollars.”(Knutson, 2023). The pro tour cards were a failure because they did not mesh with the thematic conceit of *Magic* and instead were “an inward look at the players and the mundanity of even the game’s foremost performers.” (Knutson, 2023). In addition to the Pro Tour Player Cards, Wizards of the Coast included their real life Planeswalkers more directly in the game through the annual Invitational tournament held each year from 1997 to 2007. The winner of each invitational was allowed to submit a card to Wizards of the Coast to be included in the game. In addition to designing the cards, the players were also included as characters in the illustrations featured on the card.

The Pro Tour Player Cards are included in this discussion because it points to *Magic* as an embodied and social activity (Shaw, 2011). The Pro Tour, in particular was Wizards of the Coast's attempt at constructing an image of what the social elements of *Magic* looked like, in a sense casting the Pro Tour players as a kind of real world Planeswalker who their more casual audience could identify with. However, there were a number of issues, such as the Pro Tour Player Cards feeling out of place and executive hesitancy regarding the pro tour in general. Among these issues, Knutson points out, the Pro Tour Cards were uncomfortable reminders of who is playing the game, generally white cisgender men. In 2007 the Invitational and the inclusion of the Pro Tour Player Cards came to an end, meaning that the professional players Wizards of the Coast had been pushing were no longer included as a part of the game. The inclusion of real people in juxtaposition with the fantastical elements of *Magic's* effort of worldbuilding ended up being a strange misstep.

A central component to *Magic's* capacity for narrative and storytelling comes from the thematic work and worldbuilding that appears on the cards without obstructing gameplay. As a function of the cards as a component they are able to express a plethora of information which expresses rules and thematic fluff. The theming of these cards provides a way to prime players for understanding how the rules function within the game. Cards in *Magic* contain components that serve predominantly thematic purposes such as the art and flavor text – text placed at the bottom of the card that provides a sense of theme or context. Flavor text functions intertextuality, creating a link between various cards, characters and conflicts in a way that rounds out the thematic elements of the cards (Crutcher, 2017). Part of this is the effectiveness of *Magic's* art for creating a strong sense of place and draws players to the game. Chris Page, an early adopter



of *Magic* noted that the art was one of the big draws for the game “I think the art added a big part to the game...There was certainly a huge difference in seeing the finished cards compared to the playtest cards, which might have had like a black and white picture of an aeroplane or something stuck on them.”(T. Chalk, 2017). The mechanical information on the card provides just as much narrative and aesthetic impact as the purely thematic. *Magics* narrative readings rely heavily on the intertextual and paratextual elements that are introduced through the cards and the other media contained within the broader mix of *Magic: The Gathering* as an intellectual property.

The narrative fragments that are doled out through the various pieces of *Magics* platform are necessary for the way stories are constructed and interpreted by players. Paul Booth notes that “all paratextual board games ask us to play for a time within an alternate world. This world is necessarily incomplete; it relies on us to fill in the contextual details. These details, as Marie-Laure Ryan describes, emerge from our own interpretation of the world around us.”(Booth, 2015). This pertains to *Magic* in that the cards have the ability to provide us with an incomplete picture of the world by representing not only actions within the game but also narrative components such as entities, locations, actions, or even specific events drawn from the storyworld diegesis. The very act of playing *Magic* “becomes a way for fans to develop their own interactive narrative via players’ own imaginative play”(Booth, 2015). *Magics* ability to function as a narrative database is reliant on the conceptual metaphors of *Magic* which allow players to describe different game actions through narratively appropriate shorthand. In addition to the Summoning Sickness example described above, book historian Allie Alvis notes that players’ decks are referred to as libraries and combined with the designs printed on the backs of

cards, communicate the deck as a repository of *Magical* knowledge (Alvis, 2022). The language and imagery of the book is important in setting the tone of *Magic* through the book-ness of the cards. The conceptual metaphors are important for describing the varieties of actions in non-figurative ways which still convey the meaning and effects of the action. These metaphors are important for describing the state of the game and what events are happening. Players will narrate the movement of cards as they change between the zones of play in ways that describe their ontological states in relation to the metaphors, e.g. moving from the battle field to the graveyard upon death (Papišta, 2022). The conceptual metaphor which *Magic* introduces for its players is what allows for “a shared, intersubjective understanding between players to exist regarding the meanings of various gameplay scenarios” (Papišta, 2022). Likewise, the planeswalker is an essential metaphor for describing the player’s role within the game and is the central structuring metaphor from which the locational and mechanical metaphors emerge. Without the planeswalker the damage and life metaphors that structure the goals of the game make little sense nor does the act of casting spells. This is where the conceptual metaphor of the trading card game’s theme is important as the “game mechanics represent, in essence, specialized symbolic systems that allow players to establish an intersubjective understanding of imaginary game-internal events...they make use of embodied metaphorical reasoning” (Papišta, 2022, p. 505) as a way for players to accept and construct a common understanding across the global language boundaries.

An example of this is apparent in the way early strategy guides for *Magic: The Gathering* describe and pitch the game of *Magic* to potential players. In the foreword to Gregg

Williams and Paul Dreyfus' *The Unauthorized Strategy Guide to the Magic: The Gathering Card Game*, Dreyfus says of *Magic*:

“...while its most easily described as a game it's far more than that. It's a world that you inhabit where you get to know interesting creatures, take on abilities you never imagined existed, and be both your best and your worst self at the same moment. Perhaps best of all, it's a world that you take part in creating. Here, you select the creatures and abilities from a seemingly endless array of possibilities and determine how they're going to interrelate. ...And, finally , a good *Magic* session can feel like being immersed in Tolkien's *Middle Earth* trilogy and other epic fantasy works.”(Williams & Dreyfus, 1995, p. IX).

At the time they wrote the book, Williams and Dreyfus were technical editor and editor respectively of the *Apple Directions* newsletter for Apple Inc. It is apparent from the decisions made in their guide that they saw the strength of using *Magics* theme to introduce the concepts and rules to new players. Throughout the guide's discussion of combat, the example scenarios are presented through a series of panels depicting summoned creatures engaging in combat. Each panel is presented in sequence with several branching outcomes in a manner that echoes a choose your own adventure book giving the reader an insight into the complexity of the decision tree. Narrativizing the combat phase in this way highlights something particularly interesting about the interplay of *Magics* theme during moments of play. During each turn in a given game of *Magic*, players are taking actions which describe the events of a story, whether they explicitly acknowledge it or not. In the context of paratextual games, Booth argues that “When players have the opportunity to make more independent decisions, the game becomes less story oriented

and more ludic” (Booth, 2015, p. 24), and while this may be true from a design standpoint, this falls into the age old trap of pitting a game’s story against its mechanics. This is also a demonstration of flavor and narrative equity working in tandem. What we learn from approaching a game of *Magic* as a narrative timeline, is that any game tells a story through the implications of its thematic and mechanical elements.

### Algorithmic Storytelling

The way that the mechanical elements of *Magic* interact with the theme of the game produce a way of assembling the game narrative algorithmically through the use of the narrative database constructed by the cards which store narrative information and mechanical instructions for how to interpret them during play. The set of *Magic* cards that are brought into an instance of play make up what we can identify as an analog version of Lev Manovich might identify as a new media database. For Manovich the database of new media is made up of a set of data objects that can be accessed and assembled in a user defined order. Narrative in interactive fiction for Manovich is “the sum of multiple trajectories through a database” (Manovich, 2001, p. 227) and games are specifically narrativized by moving through the database in specific ways. Manovich’s database draws attention to the networked connections between elements. We can think about a game of *Magic* as a restructuring of data in a specific order that is a serialized assembling of thematic and flavorful plot points that reference events, actions, entities, and so on within the story world of *Magic: The Gathering*. Booth says that the “narrative highlights serialized elements within a correlated structure to develop an underlying logic” which would be

positioned as oppositional according to Manovich (Booth, 2015, p. 160). However, Booth continues to note that these elements are not necessarily at odds because: “the new media environment is rife with instance of database/narrative structure mergers, as fans can use a “narrative” approach to generative content online... Instead of *either* accessing data on vast stores of online archives, or representing a plot through a specific order, fans can do both, using wikis and the “inherent hypertextuality of the web to create connections between narrative elements.” Through the creation of a “narrative database,” fans structure a “narrative through communal interaction.” (Booth, 2015, p. 161). The freeform assembly of narrative events affords what Booth identifies as “unstructure”. Unstructure describes “the inability to define or recognize the underlying basis for a structure within a system. Unstructure exists when elements appear random, but we simply don’t know enough about a system to see the organizational patterns...unstructure is the deliberate application of this structured randomness for an effect” (Booth, 2015, p. 23). Unstructure is way of assembling and describing the relationship to gamic actions. Both signify something thematically and as a conceptual metaphor for rules. What is interesting about *Magic* players, and those deemed to be Vorthoses is that as fans of the thematic elements they “use the game to create their own stories, their own meanings out of the text.” (Booth, 2021, p. 106). This is reflected in fan discourse around specific ways of playing the game and building decks with card combinations that constitute what the community calls “flavor wins.” In the parlance of Beyer, flavor wins constitute cards and interactions that accurately simulate the genre they are operating within – traditionally for *Magic* this is high fantasy, but has also branched more recently into noir, science fiction, and so on. Consistent with Sullivan and Salter’s claims that story crafting games require enough leeway in when and how

events are played, and such dynamics lend themselves to the use of cards to describe actions and events. The cards in *Magic* function as prompts and story objects which allow players to describe the narrative kernels as they enter and are resolved from the stack during a game turn.

Unstructure doesn't only hide the system operations that occur during gameplay, it also describes the way that players and analog games map complex algorithmic processes to the thematic elements of a game. This has the added benefit of streamlining the execution of game actions and getting players familiar with the rules of the game by coating them in language made somewhat more intuitive through theme.

As with many games, the algorithm of *Magic* is hidden behind the thematic elements of the game and terminology which both helps players understand and describe the things that happen, but also obfuscates the algorithmic nature of play. Take for example the terminology "Summoning Sickness." When a player casts a creature spell, narratively speaking, they are calling that creature from another plane to come do battle at their behest. However, the experience is so disorienting for the creature that they must wait to recover from their summoning sickness before acting. Mechanically this means that if Player A casts Shivan Dragon and it comes into play but cannot be used to attack or use its activated abilities until Player A's next turn. Simultaneously specific keywords included on cards describe specific properties in a shorthand method. For example, the key word *Flying* indicates that a creature cannot be blocked by another creature unless it also has the *Flying* or *Reach* keywords. As discussed in chapter 1, these keywords function like reserved keywords in the syntax of various programming languages encapsulate the complex interactions they reference. The term use of the evocative term flying however suggests that the creature is in the air and can only be blocked

by other creatures in the air or that can reach up high enough. This serves as a kind of conceptual metaphor that also obfuscates the algorithmic workings of *Magic* through the application of flavorful language. This obfuscation is *unstructure*. The algorithmic nature of *Magic* and the subsequent presence of unstructure are important for the way that narrative timelines are constructed during play.

Analog games are algorithmic and computational, meaning that they ask players to perform the work of computation by following the rules and procedures described in the game's rulebook. In *Magic*, these rules extend onto the cards themselves to provide additional actions, caveats, and exceptions. As discussed in more depth in Chapter 1, the act of computation is facilitated by the components acting as hardware with the player acting as the processing unit in charge of interpreting and executing commands. The Stack in *Magic* is a system developed to aid players in executing the complicated interactions that emerge from various game actions and cards when played in response to each other in a way that breaks from the standard turn order. The stack's primary function is to keep track of abilities and triggers within the game so that they can be executed in a predictable order.

The Stack shares its name with the data structure common in computer science. The primary feature of the stack is the "last in, first out", or LIFO ordering of its contents. The initial use of a stack-like structure for evaluating computational operations was theorized by Alan Turing in his 1937 paper on "On Computable Numbers" (Turing, 1937) and design of the Automatic Computing Engine following WWII which outlined a theoretical architecture for stored program computers, as opposed to computers that were hard wired to perform a single specific task (Carpenter & Doran, 1977). As this design evolved the stack emerged as a way to store

commands written in the program which also reduces the amount of memory operations the computer must perform. Following the change in 6<sup>th</sup> edition Randy Buehler writes in *The Official Classic Sixth Edition Strategy Guide* “ The ‘rules’ of *Magic* are really just a small collection of timing rules...Cards that change the rules are what makes the game more difficult, but they are also what makes *Magic* so much fun.” (Buehler, 1999, p. 10). In Buehler’s explanation of the new rules he describes the stack in terms of the “active player”, the player whose turn it currently is, and “priority” which determines who’s turn it is to add a card onto the stack. Priority passes from player to player until all players have passed priority. Per the 2022 version of *Magic’s* comprehensive rules document “The Stack keeps track of the order that spells and/or abilities were added to it. Each time an object is put on the stack, it’s put on top of all objects already there” (*Magic: The Gathering Comprehensive Rules*, 2019, p. 405.2). Statements released by Garfield and Wizards of the Coast CEO Peter Atkinson indicate that the changes made to the way *Magic* functions were intended to preserve the complexity that players were discovering within the game systems while streamlining the game and making it easier for players to comprehend (Slizewski, 1999). However, the changes were met with a mixture of positive and negative reviews, with players writing into TCG publications such as *InQuest* and *The Duelist* to voice their complaints. Buehler identifies the Stack as “not a physical stack of cards but a way to determine which cards’ actions are resolved first” (Buehler, 1999, p. 16). As a conceptual space the Stack functions as a way for players to keep track of how actions interact, however in the 2022 Comprehensive rules the Stack is listed as one of the zones a card moves into and even recommends putting laying out cards in a physical stack. The Stack is only one rule system in *Magic* that allows it to function in a computational manner. Other rules are in



place that addresses *Magic's* tendency to fall into loops and branches. In fact the complexity of the computational and algorithmic interactions in *Magic* can even be used to create a program that demonstrates Turing completeness (Churchill et al., 2019). However, the Stack is the central structure which allows for many of these interactions to function.

Actions and effects entering and exiting the stack form a chain of game events. A game of *Magic* can be recorded and reconstructed just like a game of chess can be recorded and reconstructed based on a simple notational structure. Chess's notation describes a turn in terms of moves which can be represented by noting the square where a piece was moved. So, the notation *1. e4 e5 2. Nf3 Nc6*, indicates that in the first turn the white pawn from square *e2* moved to the square *e4*, the black pawn from *e7* moved to the square *e5* putting them in opposition. With this notation we know that these are the pieces that must have been moved based on the rigid movement rules for each piece. In this case, the first time a pawn moves in chess it may move up to two spaces. While there is no standardized notation for tracking what happens in *Magic*, the standardized sets of rules allow for games of *Magic* to be described in similar ways. The names of *Magic* cards are important for this process because each one stands in as shorthand for the entire object of the card, including the effects and its relationship to other aspects of the game. So, for example, when Char is referred to as a card it describes how much mana was paid to cast it, two of any color and one red, when it can be cast, at instant speed or any time, and its effect: "Char deals 4 damage to target creature or player and 2 damage to you". When Char is played, we know that the player who cast it had at least three mana available, and 4 damage was done to a creature or player, and the casting player took 2 damage. Using the Top Deck of the

Century moment described above, we can develop a similar notation system. At the start of the interaction it is Ruel's turn. So we can begin with the notation:

*Turn: Ruel*

Next, Ruel is in the first Main Phase, where the majority of actions occur, such as playing lands, summoning creatures, or casting sorcery spells that can only be played during the Main Phases. After taking his actions for turn, he moves to the Attack Phase, which has a number of steps which guide the process. At the beginning of the attacking phase the player whose turn it is declares which creatures they are using to attack, followed by the defending player declaring which creatures, if any, are going to block attacks. Next combat is resolved, and any damage is done to creatures and the player is calculated. Ruel declares Hand of Cruelty and his spirit token as attacking creatures. Jones has no creatures in play and so cannot block. During the combat phase Jones takes damage. However, before the combat Jones is able to cast Char as a reaction because it is an Instant spell. This can be notated as follows:

*Attack Phase*

*Attackers Declared: Hand of Cruelty, Spirit*

*Blockers: None*

*Response: Jones – Char @ Ruel*

*Combat*

After combat is resolved the turn returns to a second Main Phase, but since Ruel has no other actions to take the turn passes into the end phase. The end phase is made up of the End Step, which allows for other abilities to be triggered, and the Clean Up Step where any remaining actions on the Stack are resolved.

*End Phase*

Next, the turn passes to Jones, who goes through the Beginning Phase of his turn, which includes the Untap Step, where tapped cards are returned to the untapped position, Upkeep, another moment for abilities and effects to occur, and finally the Draw Step, where the player draws the top card of their library. However, because they are playing analog *Magic*, players are able to shortcut formal declarations of these steps unless there is an action they want to or are required to take. Knowing that it is the final turn of the game, Ruel suggests that Jones flips the top card of his deck. Doing so, Jones reveals Char and the game comes to an end because the human players are able to extrapolate the outcome of the game. However, in a formally computational sense, and for the sake of our notation, it can be described like so:

*Turn: Jones*

*Upkeep*

*Draw*

*Main 1: Char @ Ruel*

*Game End*

The outcome of these actions can be extrapolated from this information. Although an incredibly sterile version of the events that happen, this describes the same turn as the story and summary that began this chapter. With some work this notation could be optimized further to more accurately convey the game actions that are being taken.

The ability for narrative events to be described algorithmically is another important way that *Magic* does the work of characterization. Particularly in the way that the card actions come together to describe what characters are doing. For example, MicroProse's 1997 adaptation of

*Magic: The Gathering*, which takes this notion of *Magic* as a roleplaying game and runs with it. It builds out a world for the player to explore that is based on the storyworld of *Magic: The Gathering*. It foregrounds the player's subject position within the game by providing a customizable avatar to represent the player exploring the plane of Shandalar and pairing the overworld RPG exploration with an adaptation of *Magic* that leans into the immediacy of the game's computer interface to make it seem as though the game is being played on a table, in a swamp, dungeon, or wizards tower against whatever *Magical* creature they are dueling. Interestingly, Shandalar chooses not to represent the actions of the cards with anything beyond representing the state of the card game. This has the effect of reinforcing the narrative and thematic framework of analog *Magic*, despite the remediation of the game's interface and adaptation of its rules into a digital roleplaying game framework. While there is very little dialogue used to characterize the player character, the kinds of spells they use is an adequate substitute for characterization.

A drastic shift in *Magic: The Gathering*'s marketing occurred in 2007 with the release of the Lorwyn set. As the focus on players as real life Planeswalkers began to diminish, Wizards of the Coast used this opportunity to turn towards marketing their own Planeswalkers as original characters. The goal was to "revamp the power level of the Planeswalkers" to make them "more approachable" as characters for the storyline being featured in the Time Spiral block (Rosewater, 2018b). The design team brought together by Mark Rosewater included Matt Cavotta, Mark Gottlieb, and Brandon Bozzi (Rosewater, 2018b). The team behind Planeswalkers were tasked with the difficult task of introducing a new type of card to *Magic: The Gathering*. At first glance, the Planeswalker cards appear to be just like any other *Magic* card. They have a name, a mana

cost, art, and a type. However, the bottom half of the card is where things change. Rather than having simple ability text, they have a number of abilities that are assigned a loyalty cost that is positive, negative, or zero. Loyalty is a type of resource specific to Planeswalkers and is used to activate different abilities. Abilities with a positive value add loyalty counters to a Planeswalker, while negative values remove loyalty counters and so on. Positive loyalty abilities are usually less explicitly useful than negative loyalty abilities, with zero loyalty abilities being the weakest. This is not always the case however but serves as a balancing factor for the Planeswalkers. Each Planeswalker enters the battlefield with a number of loyalty counters listed on the bottom of the card, where creatures' power and toughness are displayed. When a Planeswalker's loyalty reaches zero they are sent to the graveyard, just like any other creature. However, as they are characters that have a part to play in a broader narrative, this is less a representation of death than it is representative of how much a Planeswalker is willing to get hit or be used for their abilities before they need to leave. In effect, Loyalty is what it says on the tin. It tells you how good of friends you and the Planeswalker are. Unlike creatures, the Planeswalkers a player can summon can be the target of other attacking creatures, a feature previously exclusive to players. During combat a player may choose to attack either their opponent or a Planeswalker under an opponent's control. Attacks directed at Planeswalkers can be blocked and mitigated as normal. If a Planeswalker is dealt damage the amount they take is removed from their loyalty total.

The Planeswalkers released to a mixed reception. Some players were in favor of the iconic new characters or theory crafting about how they might fit into *Magics* metagame and how best to build decks around them. Others were frustrated by the complexity that Planeswalkers added to the rules of the game. Richard Garfield is among this group, saying in an

interview that he does not like the Planeswalker cards because they were too complicated and restrictive in their design. However, Garfield points out that the Planeswalkers “create a focal point to the game and an identification to the world”(A. Chalk, 2018). The advantage of the Planeswalkers is that they give Wizards of the Coast a set of characters they have complete control over. The Planeswalkers have a strong brand identification. You would be hard pressed to find a *Magic* player who does not least recognize the names of Jace Beleren, Ajani Goldmane, or Chandra Nalaar. Planeswalkers are valuable to Wizards of the Coast’s marketing because recognizable characters allow them to expand *Magic* from being just a game to being an entire transmedia property centered around a world and characters fans would become familiar with through the game as well as associated paratextual media. The ability to focus on their own characters allows Wizards of the Coast to these iconic characters without having to worry about scandal arising in the way that it did from several incidents of high profile Pro Tour players having public meltdowns or falls from grace. Instead, the only people who could cause scandal for their characters would be Wizards of the Coast themselves. The Planeswalkers function similar to the way Disney utilizes their Intellectual Property, particularly the emergence of the Marvel Cinematic Universe allows for characters to be smashed together and made recognizable for merchandising. This kind of character is described by Joleen Blom, using the Japanese term *kyara*, as a kind of iconic representation of the character divorced from its ludic contexts to avoid clashes in their appearance across the marketing and instantiations of its source (Blom, 2021). In particular, characters constructed in this way avoid the tension between the experienced version of a character through a game and the version that appears in the property’s broader contexts. *Magic* Planeswalkers quickly became marketable as players wanted to play

decks themed around or inspired by their favorite characters. This effect also spills over into the secondary markets as players sought out cosmetic items like playmats and card sleeves featuring the Planeswalkers. This is a boon to both the secondary accessories market retailers and Wizards of the Coast as officially licensed products entered the market. Blom also notes that the deployment of these kinds of characters often are attempts to leave the player's agency within the narrative of the game intact (Blom, 2021). A key distinction following the introduction of the Planeswalkers to *Magic*, is that each game played prior to this was framed as though the players themselves were the main characters of their story. The duel is then a narrative timeline of the battle between the players. However, with the introduction of the Planeswalkers, the position of the player as a character within the storyworld of *Magic: The Gathering* has diminished.

The Planeswalker cards themselves draw a hard dividing line in the subjectivity of the play of the players, making them prominent threshold objects that draw “the player into the gameworld and maintains its boundaries and distinct space”(Wake, 2019). It is apparent the Planeswalker cards themselves are not the only way to characterize Planeswalkers as characters. For example, *Duels of the Planeswalkers* featured special decks themed around the Planeswalkers and featuring their character archetype and is built around the personality of the of the Planeswalkers themselves. Just as the decks function as a way to explore the player character, the Planeswalker decks included in the Duels of the Planeswalkers games do the work of representation and do not feature the cards that represent the Planeswalkers themselves. The Duels of the Planeswalker games feature the Planeswalker characters introduced by Wizards of the Coast in 2007 to bring the narrative conceit of *Magic* to the front and center in order to “make Planeswalkers matter more”(Rosewater, 2007b). Each *Duels of the Planeswalkers* game

features a campaign where players fight through a ladder of Planeswalkers with a loose connecting narrative thread. The format is similar to those found in arcade fighting games such as *Street Fighter* or *Mortal Kombat*, where the campaign is more of an excuse to fight against AI opponents with increasing difficulty. Through these campaigns the *Duels* games are able to characterize the Planeswalkers through intermittent dialogue, gameplay barks, and the kinds of strategies and cards used.

Take for example the Planeswalker character Jace Beleren is featured prominently in *Duels of the Planeswalkers 2013*. Before loading into the campaign duel, players are presented with a brief set of screens that feature biographical information on Jace. We are told that his style of *Magic* is Blue-mana-based mind *Magic*. His preferred creature companions are Wizards, illusions, and Mimics, and the spells he is drawn to are “intellect enhancement, memory manipulation, and counter*Magic*.” Along with this information we are shown a version of his Planeswalker card, Jace, Memory Adept, which has a mana cost of three colorless and two blue, which is consistent with what we are told about his style. His Planeswalker abilities are mechanically related to letting players draw cards or forcing them to discard them. If we look at this thematically, the cards in the player’s deck and hand represent the spells they know and can cast. Manipulating cards in the deck and hand is akin to learning, remembering, or forgetting. As we are told in Jace’s bio, he has an affinity for memory manipulation type *Magic*. The designers of the Planeswalker cards managed to successfully unite the Planeswalkers personality with the effects of their cards. However, playing with a Planeswalker card is different than playing *against* a Planeswalker character. In order to depict Jace’s character more accurately across the *Duels of the Planeswalkers* games, Jace’s decks feature many cards focused on drawing and



discarding cards, counter spells, and creatures that facilitate the playstyle we are told Jace prefers. After defeating Jace in a duel the player can unlock Jace's deck for use, effectively allowing them to play as Jace rather than their own character. Through *Duels of the Planeswalkers*, Jace becomes a crystalized character through the affordances of digital adaptation. As opposed to analog *Magic* where he is characterized primarily through flavor text and the relationship to the rest of *Magic*, in the digital game Jace's story is direct and singular and his story is allowed to develop.

However, it is also important to consider the relationship between the thematic and ludic elements of the adaptation because the remediation of paper *Magic* has implications for how the narrative is presented in the adaptation. The *Duels* series also features a light narrative campaign where players duel against a number of AI Planeswalkers. *Duels of the Planeswalkers* is indicative of the change in the relationships between players and the storyworld of *Magic: The Gathering*. It signals the *Magics* shift from a game with its own internally consistent storyworld to something that functions more closely to what Nick Bestor identifies as a Licensed storyworld (Bestor, 2019, 2021), making *Magic* a paratextual game for its own original IP. *Duels of the Planeswalkers* differs from previous digital adaptations of *Magic* in that they now had "main characters" to focus on. The player was no longer the most important character in a story. Instead, *Duels of the Planeswalkers* games are about exploring the character of the Planeswalkers and their relationships to one another. The way these relationships are explored is through dueling the Planeswalkers as computer controlled opponents. Aside from some dialogue and limited cutscenes, the characterization of the Planeswalkers in the *Duels* series occurs

through the presentations of their decks, proving Richard Garfield's declaration that decks function as characters to be prophetic.

It would seem that the interface of Duels of the Planeswalkers, with its attempts to replicate the player's seat at the table, takes care of adapting the subject position of a player playing *Magic*. However, Duels of the Planeswalkers do not place the players into the subject position of any of the canonical Planeswalkers in the same way. Analog *Magic: The Gathering* has become a paratextual game of its own transmedia narrative because it does not necessarily develop an overarching story, but they do allow "the fictional world to be accessed in the real world through character identification" (Booth, 2015). For several editions of Duels of the Planeswalkers, Wizards of the Coast released themed decks based on the decks, however this is less of a mechanism for telling the story of the Planeswalkers and rather evoking the affective dimension of the Planeswalkers in question. This follows along with Booth's sixth principle of paratextual board games, which states that paratextual games "rely on mixing familiar characters and unfamiliar characteristics to facilitate player investment" (Booth, 2015). Paper *Magic*, because its encounters are fleeting and do not produce new narrative elements, rather it allows players to explore the storyworld. In this way, analog *Magic: The Gathering* is an mediates the affect of its storyworld in a way that is about "the interactive mechanisms by which audiences construct and develop those stories outside the realm of authorized interpretations." (Booth, 2015). The introduction of narrative events within a digital game relieves analog *Magic* from the burden of advancing an overarching narrative. Instead, mediating narrative affects through analog *Magic*, as demonstrated by the release of the themed Planeswalker decks, is about establishing a relationship between the player, characters, and storyworlds.

In creating an adaptation of *Magic*, what Stainless Games have done is translate both of these subject positions to a digital platform. Vella points out that digital games signify and function as representative systems (Vella, 2013). In the case of *Duels of the Planeswalkers*, the things being represented and signified are *Magic*, the game, and *Magic*, the storyworld. The issue comes at the level of the interface, which is more representative of the player playing the game and still relies on the token gestures of representations of cards and the tabletop as a hypermediated object through the process of remediating the platform of play. However, even if the players are allowed to play as Jace, or one of the other Planeswalkers, they are never truly enacting them as a character. They may be able to play as though they are the Planeswalker, but the authorial control remains in the hands of the writers and whoever is in control of the Planeswalker story. The only agency given to the player's character in the stories of *Duels of the Planeswalkers* is to push the story forward, to reveal through winning each duel what has been predetermined. Similarly, this characterization of a first party character does not happen in analog *Magic*, and instead relies on official storytelling from other media within the *Magic: The Gathering* property, such as that found in *Duels of the Planeswalkers*, in order to characterize the Planeswalkers.

In 2012, Wizards of the Coast began to push a new marketing slogan which told players "You are a Planeswalker!" The phrase was displayed prominently on much of the marketing materials and pack-ins included with *Magic* products. This marketing plan was the result of a push for more attention to be paid to the Planeswalkers as the centerpiece of *Magic: The Gathering's* narrative efforts. Following the rollout of this marketing plan, *Magic* columnist Brandon Isleib published an article for Cool Stuff Inc., where he expressed confusion about the role of the

player in the post-Planeswalker world. Isleib points out that the concept of the Planeswalker has “moved from a player concept to a card type and marketing build-around” which confuses the relationship between the two by conflating abilities and roles(Isleib, 2012). This issue is only exacerbated by the “You are a Planeswalker” marketing as the gulf between player and Planeswalker became more apparent both in narrative terms and in terms of gameplay. As noted earlier, when playing *Magic*, players simultaneously occupy the subject positions related to being a player in the material world engaging in the act of play and as a character within the narrative world created by the game through theme anchored by the material components of the game (Wake, 2019).

While Analog *Magic* develops the world and allows players to explore it, it cannot push the narrative forward in any meaningful way. *Duels of the Planeswalkers* and other *Magic* paratexts on the other hand are given free rein to advance the stories of the Planeswalkers. This is where we see the key distinction as the Planeswalker as a concept change from being a shorthand and narrative framework for the player within *Magic's* story and becomes more forwardly a moniker given to characters. By shifting away from the player as Planeswalker model, Wizards of the Coast is able to take direct control of the overarching narrative direction of *Magic* through the more marketable and recognizable Planeswalker characters. As a result, Wizard of the Coast takes direct control over the characterization and narrative direction within digital adaptations to facilitate what Suzanne Scott identifies as the just-in-time fandom of transmedia storytelling. One effect of this is perhaps the intended one, a collapse of the timeframe during which content is consumed (Scott, 2010), through which the release of new content brings in an influx of capital. The adaptations of *Magic* fill in the time between set releases by drawing on the affective

fan investment in the characters. The second part of this, is the unification of storytelling which privileges a specific, often gendered and racial vision, of what stories are being told while simultaneously overwriting fan interpretation of the events of a text (Scott, 2010). As the Planeswalkers become a center piece of *Magics* media presence, the willingness for players to read their games as duels between Planeswalkers becomes less. This also allows Wizards of the Coast to reduce the presence of high profile players, such as those featured on the Pro Tour Player Cards, as real world Planeswalkers thus avoiding association with public meltdowns or scandal caused by endorsed characters outside their direct control. As Isleib's blog post points out, there is a disconnect between what the players understand themselves to be when the marketing material tells them "You are a Planeswalker" and what a Planeswalker actually is mechanically and narratively for *Magic*. Ironically the exhortation that "You are a Planeswalker" is less of an indication that players should think of themselves as such, and more of a way to direct attention towards *Magics* own established Planeswalker characters.

### Conclusion

It is an important caveat that this type of narrative play is not a universal experience of all players, nor is it a particular interest of many players in spite of the fact that it has attracted so much investment from Wizards of the Coast. As noted earlier, the psychometric profiles used by Wizards of the Coast include players who enjoy the puzzle of assembling algorithmically complex or highly competitive decks regardless of the theme. For these players the "deck

represents a dynamic puzzle metaphor in an evolving competitive arena” (Martin, 2017). This is representative of the competitive nature of *Magic*. Over the past decade in particular there has been a divergence of *Magic*'s competitive nature and its narrative drives that has seen *Magic: The Gathering* as a card game become a paratext to its own larger storytelling apparatus. The role of the player avatar is meant to be an identifiable stand in for the player. For a time, the figure of the Planeswalker served as *Magic: The Gathering*'s avatars that describe a player's relationship to the narrative framework of the game's storyworld. However, as time progressed the Planeswalker concept took on a new meaning and introduced characters meant to be the central focus of any narrative progress. The Duels of the Planeswalkers games demonstrate how its particular attempt to capture *Magic*'s thematic affect has disrupted the role of the player within the narrative storyworld. The Planeswalkers have become less an avatar and more of a way to evoke the affective relationships between players and the story of *Magic*. The change in the Planeswalker figure denotes a trend in the way the relationship has changed between players and game characters. In particular, the defined character-avatars of a game describe the things the players are allowed to do to enact their performance of that character, while maintaining authorial control over them. This allows them to be figures that players recognize across a media property, making them valuable marketing tools.

The change is perhaps most indicative in the most recent releases of *Magic: The Gathering* adaptations. For example, *Magic: The Gathering Arena* features little to no narrative elements beyond the tutorial that features a small sprite-like creature who teaches players the fundamental rules of *Magic*. Instead of creating a visual avatar as in *Shandalar* or choosing from a generic set of player portraits as in *Duels*, the player portraits in *Arena* feature well known characters from

*Magics* cast. However, there is no indication that you are engaged in any kind of narrative play. On the other hand, adaptations such as Cryptic's failed action roleplaying game *Magic Legends* which had the player engage in somewhat open world explorations within the world of *Magic* but had no real ludic connection beyond interface elements that evoked the visual representations of cards. Additionally, Wizards of the Coast continually releases short fiction, comic books, music albums, and have teased television shows that allow fans of *Magic* to follow along with the characters in a way that is separate from the game. Meanwhile, new cards feature characters and locations that give a glimpse of what is occurring in *Magics* storytelling assemblage yet signify specific events that have occurred rather than things that are easily narrativized by players during a game of *Magic*.

The shifting treatment of the Planeswalkers indicates a change in the framing of players as characters within the narrative world of *Magic* and instead gestures to the role of the player as someone who explores the stories that have been laid out for them through *Magics* paratexts. Playing individual games is less about telling stories about battles between the players as planeswalkers than it is about seeing how the mechanics of *Magic* interact with one another. Vorthos players may still look for the moments where flavor reasserts itself. The phenomenon observed with Planeswalkers is not exclusive to *Magic* however but can be found in other adaptations within game and media franchises. Examining how players and characters exist in relation to the subject positions constructed through games and their paratextual media shows how the narrative structures can be impacted when these relationships are disrupted. There is more work to be done on the shifting relationship of characters as subject positions occupied by players and as representational entities within digital adaptations of analog games. As the

cohesion between games and transmedia properties increases, it is important for designers and scholars to be cognizant of these relationships. Adaptations provide a way to demonstrate what elements of a property are believed to be important. The decisions made during the process of adaptation impact the overall experiences of the players as well as how the media property is perceived as a whole. Moving forward,



## **CHAPTER 4: ADDITIONAL CASTING COSTS: HOW *MAGIC: THE GATHERING ARENA* PERFECTED THE LUDIC PLATFORM ECONOMY**

### Introduction

In its analog form *Magic: The Gathering* is already an early manifestation of the ludic platform economy. As a digital adaptation *Magic: The Gathering Arena* implements and perfects the structures common to the ludic platform economy. These structures are remediated within *Arena* as a digital platform in ways that players are already familiar with in relation to analog *Magic*. The difference is that in the move to digital mediation, the way that capital, power, and affect flow through the assemblage is drastically altered. *Arena* is a perfected mechanism of capture that redirects capital away from the play community back to Wizards of the Coast and Hasbro as holders of the platform. What was once a reciprocal relationship between players and Wizards of the Coast is now a machine in the ludic platform economy wearing the clothes and perfume of the analog to make everything feel familiar to players, while also protecting the platform from the threat of regulation. Furthermore, the adaptation of *Magic* to digital formats highlights a disparity in the presence of aura and perceptions of authenticity resulting in a tension between the values of the analog and digital product. *Arena* is an instantiation of digital *Magic* that is emblematic of the contemporary approach to the monetization of games. They are viewed as services provided to players and customizable through internal marketplaces. *Arena* is not unique in this, however it is an excellent case study because of its history as first an analog game and as a property that has been adapted in several ways. This analog history and the adaptations can be held against it as a foil to highlight the historic trends of monetization and the

subsumption of fan labor and player practices as mechanisms for extracting capital from its playerbase.

In this chapter I explore the way that the familiar structures and practices of *Magic: The Gathering*'s economy are remediated and adapted to digital platforms in ways that imbricate them in the larger systems of capture within ludic platform economy. Nieborg and Poell identify that digital games, and free to play games in particular, challenge the "neat separation between modalities of production, distribution and monetization" (Nieborg & Poell, 2018). The mechanisms that define this new paradigm do not emerge within a vacuum. Rather, they have a history deeply seated in the history of analog games and play. In particular, *Magic: The Gathering* employs many of the structures that are discussed as unique to the digital ludic economy, although several of these systems are either adapted wholesale or are altered through the processes of remediation to function within the walled garden of digital platforms. I view *Arena* as the culmination of this process. As a starting point for this analysis, I will contextualize *Magic: The Gathering Arena* within the larger ecosystem of digital trading card games and the ludic platform economy broadly. Then I will discuss the established mechanisms through which capital flows through *Magic: The Gathering* communities. In particular, I introduce the booster pack as a primary way for disseminating cards amongst players and the related systems of ludic aesthetics that determine the value of cards within these communities. This leads to a discussion of *Magic: The Gathering*'s secondary markets, such as those where cards are bought and sold by players and the introduction of fan labor. The secondary market practices create a grey market that is simultaneously at odds with Wizards of the Coast yet provides a valuable practical and aesthetic dimension to the game. This examination highlights the ways in which the creation of

digital platforms featuring adaptations of analog games function as a form of capture through the mechanisms of the ludic platform economy in such a way that is coconstitutive with the development of the platforms themselves.

Through the processes of adaptation and remediation *Arena* refashions *Magic* into “monetizable packages of intellectual property” which allows for its systems to function as “containment mechanisms and payment structures through which data or information becomes sellable as contents” (Steinberg, 2019, p. 34). At its core the ludic platform economy is an apparatus of capture, or rather an assemblage of various forms of capture that come together to support platform capitalism. The term “apparatus of capture” comes from Deleuze and Guattari’s work in *A Thousand Plateaus* and describes the assemblage of operations combining direct comparison and monopolistic appropriation which, functioning together, generate the apparent excess and differences that constitute the profit value (Deleuze & Guattari, 1987). Carolyn Hardin, in expanding the framework of capture suggests that “capture does not take advantage of existing differences, but rather that it is a process that produces the conditions for comparison where none existed before in order to exploit them” then continues on to identify capture as “a creative process, one that generates differential value measurements to allow for comparison and profit, but appears merely to find and exploit those differences” (Hardin, 2021, p. 12). To discuss the way the production of comparisons which make capture possible I draw on Walter Benjamin’s conception of “aura” as a way to discuss the perception of authenticity and by extension value. For Benjamin aura describes a specific history of a work of art which produces a phenomenological and affective reaction in those who view it. Miriam Hansen describes aura’s functioning as “a medium that defines the gaze of the human beings” (Hansen, 2012, p. 107)

though not a medium in the McLuhanist sense of the term. Rather, Hansen argues that aura structures the way meaning is made through processes of perception. These systems are remediated in different ways throughout *Magics* adaptations, and for *Arena* in particular, are refashioned in such a way that they slot neatly into the broader construction of the ludic platform economy.

The relationship between aura and capture is in the way aura functions as a way to generate comparison of similar objects in such a way that it becomes possible to describe a difference between them. In *Magic* the cards function primarily as ludic signifiers of particular actions and it is the possession of the card that is important. I examine the emergence of proxy cards as a way to argue that the perception of value comes from the means and source of re/production of authentic cards. Then I discuss how the move to digital platforms adapts the perception of authenticity through the auratic structuring mode of the trading card as an object to perform a kind of aesthetic capture which produces value for the platform as well as reifies player ideas about authenticity.

It is easy to see the ways that the processes of capture emerge within *Magic: The Gathering* through the enforcement of artificially scarce products which are then subsequently judged based on both their rarity and the utility they provide within the game. This process is dependent upon the “specific cultural and historical milieus... in which desire and demand, reciprocal sacrifice and power interact to create economic value in specific social situations” which Hardin, citing Arjun Appadurai, calls “regimes of value” (Hardin, 2021, pp. 15–16) However, within *Magic* there exist several regimes that determine value through the process of comparison and accumulation which includes both this utilitarian measurement of mechanical

power and rarity, but also includes the aesthetic value of the cards in question. This is apparent in the value differentiation between cards which are functionally the same, yet have different aesthetic properties, such as alternate art and metallic foil printings, but also extends to the realm of authenticity. In the shift to digital *Magic*, the apparatus of capture is remediated so that it functions within the digital platform, appearing to be unchanged but in actuality exists within a new digital regime that makes the comparison perhaps even more illusory than it was previously. The regime of value for the digital cards is collapsed and confined in such a way that Wizards of the Coast has the ultimate say in how value develops within their platform. The changing regime is indicative of the way that the familiar elements of analog games are being leveraged within digital platforms to obscure the processes of capture and the extraction of capital on the part of the platform owner. This is a necessary piece that describes the development and functioning of the ludic platform economy as it has emerged in the modern digital age.

### The Ludic Platform Economy

The term “ludic platform economy” is a combination of Harvey and Giddings’ conception of the ludic economy and Marc Steinberg’s “Platform Economy”, which is comprised of a threefold typology of the way platform is used. Steinberg’s typology is distilled through his analysis of discourse and defines platforms as “(1) a layered structure often based on hardware, (2) a support for contents, and (3) a structure of mediation or enabler of financial transactions” (Steinberg, 2019, p. 7). Platforms fit within this typology most often as hybrid instantiations of these three functions. The platformization of *Magic* via *Arena* in particular is predicated on both

its ability to be a way of both deploying the remediated practices and components of *Magic* as parcels of data which can structure them as sellable contents. This datafication of both the material components of *Magic* and the game processes make it possible for *Arena* to function as a containment mechanism and payment structure and information can be monetized (Steinberg, 2019). In their remediation the material objects that make up the commodity form of *Magic* become pure data. For instance, the *Magic* cards do not exist in a stable state within the digital platform. Instead, they are represented as easily transmittable data that can be plugged into the engine and used to conjure forth a visual and mechanical representation of the card. There is no card, just data confined to the boundaries of the platform. Steinberg says “ the material consistency of an informational or audiovisual commodity has become unhinged from a particular physical medium and mobile in a way it was not before” (Steinberg, 2019, p. 34), in this way the contents of a platform become contingent on the platform they exist within. Nieborg and Poell aptly call this type of commodity a “contingent commodity” because of their reliance on the platforms to be “malleable, modular in design and informed by datafied user feedback, open to constant revision and recirculation” (Nieborg & Poell, 2018). In the ludic economy these contingent commodities demonstrate a discrepancy between the use and exchange value of the commodity because they are shaped by the need of the platform and the owner of the content, despite ostensibly being sold as discrete items (Joseph, 2021). The contents of a platform are not only the contingent commodities such as *Magic* Cards and cosmetic items. It is also information and data extracted from the discourse networks that exist around the media and cultural commodities. This coopting action is in service to the reproduction of authenticity that lends a platform authority. Under this regime of platformization of cultural production , Daniel Joseph

identifies how games as services” are on the rise as a cutting-edge site of digital accumulation” (Joseph, 2021). It is apparent that the ludic economy and platform economy function through similar mechanisms of capture. The conflation of games and services engenders another way that capture manifests within the ludic platform economy through the production of contingent commodities. These mechanisms, however, are not entirely unique to digital platforms, but have a tie to the history of analog gaming which is indicative of the way that platforms are able to function through adapting familiar processes.

#### Digital Trading Card Games and the Analog Genealogy

As discussed in the introduction chapter, the debates emerging from the field of analog game studies about what constitutes a platform, we see that analog *Magic* as a platform is comprised of both a hardware and software component (Altice, 2014; Bellomy, 2017; LaLone, 2019) and a social technocultural component (Švelch, 2016; Tobin, 2015) which accounts for the way that the game is interacted with beyond its status as “just a game.” It is important to account for more than the contents supported by a platform, the technical nature of the platform, and in particular, *Magics* ludic properties. Many fans of *Magic* do not play in socially constructed “correct ways of playing, but, as Kishonna Gray finds “users spend significant amounts of time watching others engaged in gaming activities” and situating them as” an interactive audience (Gray, 2020, pp. 6–7) highlights how platforms function through and as transmedia assemblages. Key approaches to interacting and engaging with *Magic* as a transmedia property include a variety of activities from focusing on the lore of the game, players Wizards of the Coast describe as “Vorthos”(Rosewater, 2007a) to players who play community

created formats that break from officially sanctioned formats. Likewise, fans of *Magic* generate a tremendous amount of content, both fan art, fiction, custom cards, and accessories related to playing or collecting cards. The fandom of *Magic* is strong enough that it supports multiple secondary markets for selling individual cards and play accessories, like play mats, card sleeves, and deck boxes, while its competitive scene sustains a plethora of local game stores, content creators, and media outlets. The media ecology of *Magic* behaves as a platform under Steinberg's framework because it supports both the content of *Magic* as a transmedia property and the mechanisms that support the flow of capital and content through the system. For Steinberg the idea of contents and a platform's contents are indicative of the media mix of convergence culture (Steinberg, 2019). The ability for Wizards of the Coast and Hasbro to develop a multiplicity of products for *Magic* as a transmedia property demonstrates the way that it is ripe for setting up as a mechanism of capture by creating the "technological conditions and market conditions for the packaging and selling of cultural goods" (Steinberg, 2019, p. 68) as became the case with *Arena*. The approaches taken by *Arena* "all fundamentally shape the games they produce and distribute and hence the player experience and game culture more broadly" (Giddings & Harvey, 2018). *Arena* is indicative of the modern ludic platform economy and its tendency towards streamlining the extraction of capital from its playerbase through the deployment of business models that include a variety of microtransactions within an ostensibly free to play system, where players can purchase loot box-like booster packs, cosmetics, and tokens for entering into premium events. However, rather than creating the technological conditions on its own, *Arena* capitalized on the boom of the digital card game and *Magics* brand power to carve out a space within the digital card game market niche.



The concept of trading or collectable cards was not a new idea by the time Richard Garfield began work on *Magic*. As baseball became a growing cultural pastime in the United States and play became professionalized in the 1860s photography and camera technology was becoming more accessible. Early baseball cards were keepsakes for clubs that featured group or individual portraits and the increasing popularity of professional players led business to promote their business. The popularity of baseball cards continued to grow and apart from a production lull during World War II. By the end of the 1940s and into the 1950s, gum and candy companies began printing full sets of cards and included individual packages. Between 1952 to 1969, gum manufacturer Topps offered packs that contained five to six cards and included their signature gum. Eventually Topps would offer packs with as many as 50 cards per pack. In 1981 the outcome of a lawsuit saw companies like Fleer and Donruss begin distributing baseball trading cards with memorabilia. By 1992 all of the major sports trading card manufacturers had foregone the inclusion of non-card objects with the exception of special editions (Elliott & Mason, 2003). The value of these baseball cards is directly related to the popularity of players and their performance, with additional value being added for cards printed during a rookie season or championship win, along with any visual embellishments (Engelberg et al., 2020). Drawing on this popular format for selling cards, Richard Garfield designed *Magic: The Gathering* merging both game and trading card format together for a novel approach to distribution.

Over the next several decades, the trading card game became a popular format for distributing cards and driving collector interest. *Magic: The Gathering Arena*'s release came in the wake of an explosion in digital collectable and trading card games over the past decade.

While platforms like *Magic: The Gathering Online* and *Magic: The Gathering Duels of the Planeswalkers* have devoted playerbases of their own, they never quite reached the more mainstream gaming audience. Perhaps the biggest breakthrough for digital trading card games came in 2013 when Blizzard Entertainment, a subsidiary of Activision Blizzard launched the closed beta for their digital card game *Hearthstone: Heroes of Warcraft*. *Hearthstone* is loosely based on the original *World of Warcraft Trading Card Game* that began its publication run in 2005 leveraging Blizzard's *World of Warcraft* property and was discontinued shortly before *Hearthstone*'s release. *Hearthstone* features many of the same gameplay mechanics as the *WoW TCG*, allowing players to select a hero character representing a specific class taken from *World of Warcraft*, the massively multiplayer online roleplaying game. Players would then face off with 30 card decks with cards that represented creatures and abilities from within the World of Warcraft franchise. Despite being an ostensibly free-to-play game, *Hearthstone* reportedly became the tenth highest revenue generating online multiplayer game, pulling in \$114 Million within one year of its release (Conditt, n.d.). *Hearthstone*'s business model relied on paid transactions within its free to play platform. It prompted transactions in the form of booster packs that contained a number of cards players could add to their decks and use in matches against other players. Other ways of obtaining cards are available to players who do not wish to spend money on the game, such as completing quests to earn in game currency that can be used to purchase booster packs or "disenchanted" cards in their collection for resources used to "craft" new cards, though this exchange rate comes at a loss for the players. Following the launch of *Hearthstone*'s mobile client in 2015, the active playerbase reached 30 million players (@PlayHearthstone, n.d.) according to the game's official twitter account and earning Blizzard

about \$20 Million each month (Pereira, n.d.). While it was not the first digital trading card game on the market, following *Hearthstone*'s success, a number of digital trading and collectable card games from popular franchises and developers to enter the market, including *The Elder Scrolls: Legends* (Bethesda Softworks, 2017), *GWENT: The Witcher Card Game* (CD Projekt, 2017), *Artifact* (Valve, 2018) – notably designed by *Magic: The Gathering* creator Richard Garfield – and *Legends of Runterra* (Riot Games, 2020).

During this explosion in the digital trading card game market, Wizards of the Coast leveraged their existing digital *Magic* adaptation series, *Duels of the Planeswalkers* (Stainless games 2009-2015), to release *Magic Duels: Origins* in 2015 for PC, iOS, and Xbox One. Eventually renamed *Magic Duels*, the game maintained many features familiar to the *Duels of the Planeswalkers* series, such as the simplified rules system, limits on deck building, and a single player campaign. The largest differences are an increased focus on “Battle Mode” which allowed players to duel each other online and the ability to construct decks from players’ full collection of cards rather than limited sets of cards associated with pre-constructed decks. To build their collections, players earn in game currency by playing either the campaign or battle modes and completing a variety of daily challenges. This currency can then be used to purchase booster packs, in the same way that one would purchase card packs for analog *Magic*. Dan Barrett, a community manager for Wizards of the Coast, estimated that about 25% of players of analog *Magic* make the jump from digital adaptation and said that the change was intended to bring the *Duels* series closer to analog *Magic* to encourage primarily digital players to transition to paper more easily (Wilson, 2015). However, in the wake of games like *Hearthstone*, it would seem that the changes were made so that Wizards of the Coast could mimic their economic

success. The intent behind the change was to implement structures that felt familiar to players to ease the transition between digital and analog *Magic*, an approach that would be deployed in the opposite direction with the release of *Magic Arena*. This strategic maneuver by Wizards of the Coast will be discussed later in relation to the loot box controversy and threat of regulation.

In 2019, it was announced that, despite its moderate success, *Magic Duels* would be removed from storefronts to make way for the full release of *Magic: The Gathering Arena* in September of that year. *Arena*'s release was predicated on two factors. First, because it was developed internally, it brought the current digital version of *Magic* under the direct purview of wizards of the coast. This allowed the digital adaptation to be brought into parity with the analog version in terms of rules and card release schedule. Second, Wizards of the Coast implemented “a freemium” monetization paradigm for *Arena*. Under this monetization strategy *Arena* is free to download and start playing, but includes various microtransactions which allow players to purchase cosmetic items, digital card booster packs, or enter premium events. *Arena* iterated on the structures of the ludic economy introduced in *Magic Duels* but brought control of the platform directly under Wizards of the Coast and Hasbro's control. This is indicative of a trend towards the *Magic* as a transmedia property enmeshed in a mélange of platforms which work together to govern the way capital moves through its media ecology.

During *Arena*'s yearlong beta period from September 2018 to September 2019, Hasbro reported three million active users and upwards of \$500 million in revenue (Forster, 2019). In 2020, Hasbro announced that *Magic* had just had its most financially successful year and reported their gaming division, which includes classic game properties like *Monopoly* alongside Wizards of the Coast properties, pulled in \$1.76 Billion (Carter, 2021b; Hasbro, 2021; Parlock,

n.d.). The COVID-19 era success of *Magic* continued through 2021 surpassing its success the previous year becoming the most profitable of Hasbro's Gaming properties (Carter, 2021a). This is in part due to *Arena*'s mobile release which "more than doubled [*Arena*'s] pre-launch monthly average users at its peak" as well as Hasbro's strategy "led by doubling down on collectability, expanding the *Magic* product suite to maximize relevance across consumer segments, and giving players exciting and compelling worlds to participate in" (*Hasbro (HAS) Q4 2021 Earnings Call Transcript, 2022*; Hasbro, 2021). Hasbro's strategy of "doubling down" on collectability and expanding the thematic worlds of *Magic* indicates a specific design philosophy for *Magic* both as a game and as a product, one that views *Magic* as a game to facilitate the accumulation of commodities associated with the thematic elements, discussed in the previous chapter, and as aesthetic objects. This demonstrates a view of *Magic* as a microcosm of what Seth Giddings and Alison Harvey identify as the ludic economy, that is *Magic* is a "dynamic ecosystem of emergent business models, new modes of production and labor, and new cultures of play" (Giddings & Harvey, 2018) that are intertwined with the entertainment industrial complex of late capitalism.

#### Collectability: Booster Packs and Loot Boxes

As with its collectable card predecessors, sales of *Magic* cards occur predominantly through the purchase of booster packs that contain a set number of cards with a predetermined distribution of cards at specific rarities. Modern *Magic* card booster packs contain a total of 16 cards. One is set aside from printing ads featuring other *Magic* products. The rest are playable cards divided up based on *Magic*'s rarity scale – common, uncommon, rare, and mythic rare.

Booster packs have a consistent card distribution of one basic land card – necessary for building up a player’s collection of lands for use in deck construction – ten common cards, three uncommon cards, and one rare or mythic rare card. Some packs may also replace a common card with a special “Foil” card, printed with a special metallic pattern, of any rarity. Standardizing the distribution of cards in each pack is necessary as certain *Magic* play formats require players to bring unopened booster packs, such as draft or sealed limited formats. The rarity of a card is determined mathematically based on its perceived power level during the design and development of an expansion set. The more powerful the card is, the higher its rarity and the lower chance it has of appearing in a booster pack. This is both a balancing mechanism and also an incentive for players to keep purchasing packs. While it is entirely possible to play *Magic* with cards exclusively obtained through card packs, the odds of getting a specific card you want, let alone multiple copies, are incredibly low. This is the allure of *Magic* as a trading card game, it is possible to trade with other players who may have cards you need. As *Magic*’s community grew, players found that it was easier to sell cards for money and eventually the secondary market for “singles”, individual cards, arose out of not wanting to spend inordinate amounts of money on card packs hoping to get what you want, and wanting to fund the habit by selling off extraneous cards. Aaron Trammell points out that “this sense of artificial scarcity is what helps the aftermarket thrive” (Trammell, 2013). The aftermarket for *Magic* is one of the primary ways that capital circulates within the community and represents simultaneously a tremendous value for the *Magic* brand and a portion of unrealized profitability for Wizards of the Coast.

In *Arena*, card packs only contain 8 cards, as opposed to the 16 cards in the standard analog *Magic* booster packs. Cards in the *Arena* booster packs are distributed similarly with 5 common, 2 uncommon and 1 rare or Mythic. Because of global laws require the odds for chance based loot boxes, Wizards of the Coast is required to disclose the odds of getting a Mythic upgrade in each pack, which ranges from 1 in 7 to 1 in 9.4 depending on the set. (*Reward Distribution / Magic*, n.d.) Additionally, the packs have the potential to drop “Wildcards” of certain rarities. The Wildcards are used to “help players round out their collections” (*Reward Distribution / Magic*, n.d.) and can be used to “craft” specific cards of commensurate rarity. One of the advantages of *Arena* being a digital platform is that Wizards of the Coast is able to modify and tune the odds of getting certain cards and rarities on the fly without needing to reconfigure an established manufacturing pipeline. Additionally, they are able to implement a “duplicate protection system”, which, as the name suggests, protects players from getting duplicate items. If a player opens a booster pack and receives a fifth copy of a specific rare or mythic rare card it is replaced with one, they do not have a full set of four – four being the maximum number of copies allowed in a deck for the majority of sanctioned constructed formats. If a player has already collected all of the Rare and Mythic cards in the set associated with the pack they open, they are rewarded with an amount of *Arena*’s premium in game currency. This can then be used to Purchase additional card packs or other in game items.

It is not a far leap to get from *Magics* digital booster packs and the recent controversy surrounding microtransactions in games, particularly as they involve Loot Crates or Loot Boxes. In their article examining the legal development of loot boxes in relation to gambling laws, Schwidessen and Karius define loot boxes as “a consumable virtual item which can be

redeemed to receive a randomized selection of further virtual items, ranging from simple customization options for a player's game character, to game-changing equipment"(Schwiddessen & Karius, 2018, p. 18). They go on to describe two kinds of loot boxes, ones that contain cosmetic items for games and those that are necessary for progressing in gameplay. As Matthew McCaffrey points out, the key feature of loot boxes and the controversy surrounding them is the fact that their contents are randomized, with more valuable items with the lowest odds of appearing (McCaffrey, 2019). Analysis of loot crates reveals that loot box style systems exist in upwards of 58% of top grossing games found on Google and Apple's mobile marketplaces and 36% of games on Valve's Steam marketplace (Petrovskaya et al., 2022; Zendle et al., 2020).

There has been much research into the link between loot boxes and problem gambling, finding a number of physiological, neurological, social, and even ludic links to traditional gambling (Aagaard et al., 2022; Brady & Prentice, 2021; Drummond et al., 2020; McCaffrey, 2019; Sidloski et al., 2022; Zendle et al., 2020; Zendle & Cairns, 2018). Loot boxes are an example of what researchers have termed "dark design patterns" which are "design strategies yielding experiences against users' best interests often eluding their awareness or consent...including not only loot boxes but playing by appointment, grinding, reciprocity and many more" (Aagaard et al., 2022). These dark patterns are something developers claim they stumble into or are forced into as a result of industry and economic pressures. However, these dark patterns are a feature rather than a bug of the ludic platform economy. In particular, loot boxes are indicative of the process of gambification, where digital games are increasingly drawing on modes of gambling in order to drive consumption (T. Brock & Johnson, 2021).



Pushback against loot boxes in particular come from an uneasy alliance between players and governmental regulatory boards. Players realized that they would need to either purchase loot crates with cash or play for extended periods of time in order to get loot crates. This means that players with more disposable income are able to outperform other players through easier access to more powerful or valuable items more quickly, referred to as “pay to win”, and blowback from game publisher EA’s introduction of loot boxes in *Star Wars Battlefront 2* in 2017, kicked off a large scale scrutiny of microtransactions and loot crates in particular (McCaffrey, 2019; Schwidessen & Karius, 2018). On the side of the governmental organizations this took the form of the classification of loot crates as gambling and the suggestion that they should be regulated as such. Faced with the threat of increasing regulation from international governments and gambling oversight organizations, the gaming industry began to police itself. Part of the concerns related to the gamblification of loot boxes includes “the problem of whether loot boxes are things of value as in a conventional wager whether they can be converted into real-world currency, and whether buying a box can result in a loss for the player” (McCaffrey, 2019). An added benefit of this portrayal of loot box systems as booster packs avoids some of the issues of gambling as the issue of whether trading card booster packs constitute gambling was settled during a 1996 lawsuit (Elliott & Mason, 2003).

However, it is not simple to enact regulation and legislation based on these parameters because the implementation of loot boxes varies across games. In particular “The economic flows become difficult to trace (and thus regulate) because in-game goods and currency purchased and/or earned by playing ... are simultaneously worthless and fungible depending on the player’s ability to move this virtual currency between game and betting sites and ultimately

convert it into “real,” exportable money using Real Money Trading (RMT) sites.” (Whitson & French, 2021). This becomes an issue for regulation as gambling regulation is often concerned with “the problem of whether loot boxes are things of value as in a conventional wager, whether they can be converted into real-world, currency, and whether buying a box can result in a loss for the player.” (McCaffrey, 2019). In other platforms like Steam’s marketplace which facilitates sale and trade of items from games like *Counter Strike: Global Offensive*, *Team Fortress 2*, and *DotA2* means that players can effectively cash out of the system. They are able to play the loot boxes like an investment. *Arena* sidesteps issues of RMT and conversion into real world currency by not allowing for items to be transferred between players or removed from the systems.

Publishers and developers responded to this in a variety of ways that can generally be broken down into three categories. Virtual currencies were used so that the actual value of the virtual goods is obfuscated from their actual value. Second, changes were made so that “real money” could only be spent on cosmetic items but switched to rotating availability for the items so that instead of playing the odds, the pressure to purchase came from a fear of missing out. Finally, in response to laws that were being passed in China, Belgium, and other countries, the percentage based drop rate for items. Player concerns were addressed by some games by making it so that the only microtransactions available were for cosmetic items.

The introduction of virtual currency is particularly important for divorcing the value of in game items from their cost to purchase through a system of digital arbitrage. Virtual currencies in the ludic platform economy enable “the obfuscation of consumption writ large” and the platforms themselves function to “pass money through a series of shunts that transforms

currency into company scrip” (Joseph, 2021). Because the currency in platforms like *Arena* can only be used internally with no opportunity to cash out or sell goods via a secondary market, the digital items are completely divorced from their real world value, letting these platforms evade regulation based on potential financial loss. The financial damage is not explicitly tied to the loot box, but rather to the disparity in the value of currency. These systems also often require players to purchase increments of in game currency in single larger quantity transactions or multiple smaller quantities than they actually need, ensuring they have an amount left over. This is capture in as pure a form as we might see in a ludic platform economy that is seeking to avoid regulation. The systems of currency within the platform are given a real world value and require players to exchange currency between them for the value set by the owners of the platform. This effectively creates “ a novel comparison that leads to monopolistic appropriation” of capital through the platform, or as Hardin calls it, arbitrage capture (Hardin, 2021, p. 15). The use of virtual currencies is a digital arbitrage in which the value is fixed and does not regulate in the way that arbitrage is usually expected to in economic models (Hardin, 2021). Instead, it becomes an infinitely recurring mechanism for capture where the platform owners will always benefit as currency transfers from one form to another. In *Arena* this set up is particularly nefarious because it will always encourage additional buying in without the possibility to retrieve currency. In fact, it demonstrates how the ludic platform economy sets up arbitrage capture that is truly zero risk and pure profit for the platform holder as because they hold all the cards, so to speak, in the relationship. This effect is replicated across the broad spectrum of analog to digital adaptations and is the most visible within digital trading and collectable card games

In other digital card games, like *Hearthstone*, active players felt that they were pay to win more than active players in other games (Tregal et al., 2020) indicating a level of expectation that trading card games necessitate some level of spending in order to remain competitive. In fact, in similar games like *Hearthstone*, Tregal et al.'s survey finds that players identified 8 aspects of pay-to-win systems, which include ways to obtain items that give unfair advantages to players, bypass the effort of grinding for valuable or necessary items, and feature transactions which can easily encourage players to spend thousands of dollars for in game items and boosts. Players interviewed by Aaron Trammell saw the economic aspects of *Magic* as part of the game and is a way that they come to understand the game (Trammell, 2013). Additionally, *Magic: The Gathering* players have been accustomed to spending money assembling competitive decks due to rotating set formats and a continually changing metagame. Booster packs are merely a familiar structure and a way of reskinning loot boxes that players already understand when they come to *Arena*. This pressure to spend money to be competitive in *Magic*, and other digital card games, represents a system of what Hardin might refer to as abstract domination. Abstract domination describes the way a group comes to “accept the conditions of their own exploitation because the very category by which they understand their social world...compels them to” (Hardin, 2021, p. 18). For Hardin, abstract domination is a way in which the social aspects of a society become seemingly naturalized and codified as a lawlike set of practices and assumptions. This is necessary for capture to function. In examining arbitrage Hardin identifies systemic levels on which concepts such as risk, organizes “ a set of compulsions that posit arbitrage as its own goal” (Hardin, 2021, p. 28). In the *Arena* scenario, the impetus for players to achieve victory, through the enforcement of *Magic* as a competitive activity, amplified in *Arena* by ranked play, functions

in the same way. Competitive play is organized in such a way that pure agonistic play is structured as the purpose of *Magic*, and engaging in the microtransactions of the platform is necessary for that to occur.

While *Magic's* practice of secondary markets for buying and selling cards comes from established practices from baseball and other kinds of trading cards, the value of *Magic* cards comes from their relationship to *Magic* as a game. Not all cards of the same rarity are equally valuable because of their strategic level of power in gameplay. “cards will often be traded and sold on the aftermarket for up to ten times the value of less strategic, but equivalently rare card.” (Trammell, 2013). Take for example the card Force of Will, one of the most powerful cards legal in all sanctioned non-standard formats. The card text says that a player may pay one life and discard another blue card to counter a target spell. What this means without game jargon is that the player with Force of Will in their hand, may play the card to prevent another player from using a card they just tried to play, negating any of its effects. Instead of spending the resources that would normally be required to play Force of Will, they may pay an alternative casting cost. While there are other “counterspell” type cards in *Magic*, Force of Will’s strength is that it can be potentially played before its owner has taken their first turn. This is a necessity in some *Magic* formats where an opponent can win the game within the first few turns or to protect your own game winning combo. At the time of writing *damaged* copies of Force of Will are listed on tcgplayer.com – a popular online marketplace for buying *Magic* and other trading cards – for upwards of \$90 USD. While not all cards are as expensive as Force of Will, many popular cards range between \$5 and \$40 meaning that assembling a constructed deck of sixty or more cards is prohibitively expensive for players with no interest in the competitive events.

The secondary markets produce a reciprocal relationship where “[Wizards of the Coast] relies on these communities to maintain a vibrant aftermarket, while these communities rely on WoTC to produce an exciting and balanced game” (Trammell, 2013). Importantly as Aaron Trammell points out “these sites of fan community do not rely on WoTC to operate; they have their own unique business structures and are moderated, somewhat autonomously, by an independent collective of fans.” Wizards of the Coast dictates the scarcity of cards circulating within the markets for analog *Magic: The Gathering*, but the players set and regulate the card prices. The artificial scarcity of booster packs and the cost of highly sought after cards “offer a model of commodified play that sits at the intersection of the pay-to-win dynamics”(Joseph, 2021, p. 69), which players have pushed back against as unfair and inaccessible in digital games. The requirement to spend large amounts of money have an impact on who is able to participate in competitive play at the highest levels. Additionally, the usefulness of the secondary market within *Magic* is important due to the rotating “standard” format of *Magic*. In order to keep the competitive metagame of *Magic* from growing stale, as well as being an ingenious way to keep players coming back for cards and getting new players into the hobby, Wizards of the Coast established the “standard” competitive format. This format causes similar effects to what Daniel Joseph identifies in Digital Games that deploy battle passes. Battle passes are a kind of opt-in progression system that are found in many free-to-play digital games and refresh regularly, inviting players to continuously buy into the game. The rewards from the battle pass are usually content that is gated behind microtransactions such as cosmetics. Joseph identifies the tension of the battle pass exists in that “the battle pass gives players an alternate pathway to access content that is usually gated directly by purchasing it” (Joseph, 2021). Though not a one to one

comparison, the need to constantly buy into *Magics* ecosystem serves a similar function to the battle pass. The existence of *Magics* secondary markets provides an alternative way to obtain cards, in the same way that players can directly purchase levels of many digital games' battle passes. Players often take this as the cost of playing *Magic*, many of them see it as a feature, finding pleasure in winning high value cards as rewards in local events. Tournament and highly competitive players are often keenly aware of the value of their cards and part of their engagement with the game is focused on making a profit through the secondary card markets (Trammell, 2013). Joseph notes that a key feature of digital competitive games is that “the competitive nature of them frames the way they are monetized and the kinds of commodities that become the basis of the game’s revenue stream” (Joseph, 2021), this is not unique to the digital and indeed can easily be seen in the very fiber that makes up *Magic: The Gathering*. Part of monetizing competitive play in *Magic* includes regularly cycling out sets of cards from the pool of cards that are legal for play in sanctioned competitive environments. This means that players must constantly re-buy into the game in order to acquire tournament legal cards to construct a standard format deck.

Assembling a competitive deck for *Magics* standard format in analog can be an expensive undertaking. According to tier lists on deck list aggregation websites like MTG Goldfish, MTG Arena Zone, and MTGDecks.net, the top tier decks for the current standard set rotation are seeing play in pro tour and high level tournament play cost between \$100 and \$600 to assemble. Purchasing a booster pack for analog *Magic* costs anywhere between \$5 and \$15 depending on if it is a standard set booster or if it’s a collector booster, which contains higher probability of special prints of cards, or a premium set which contain particularly valuable cards reprinted with

specific formats in mind, such as “modern” and “commander.” These prices are likely to fluctuate and increase as the staple cards in these decks see more and more success. In analog *Magic*, it is simple for players to purchase individual cards from online and local retailers or generally trade their way to the cards they need.

Meanwhile in *Arena*, booster packs are purchased either with gold or Gems. Gold can be earned by playing and completing various daily and weekly challenges. Gems on the other hand are *Arena*'s premium currency. Through the in game shop, you can purchase a single booster pack for the most recent set with 1,000 gold or 200 gems. The purchase options for packs include bundles of 3, 6, 45, and 90, though the rate remains the same regardless how large a bundle you purchase. 1 pack for 200 gems or 100 gold. Gems, however, can be purchased at a rate of 750 for \$4.99. In contrast to packs which maintain a constant value, the more gems you purchase you get a slight bonus the more you spend, purchasing the largest gem package gets you 20,000 gems for \$99.99. The fluctuating value of gems in *Arena* obfuscates the actual value of what players are spending and the cost of booster packs and cosmetic items through illusory arbitrage.

It is also significantly more complicated to assemble these decks in *Arena* than in analog *Magic* because it lacks a system for trading between players. In order to assemble the cards needed for a deck players must open individual packs and hope they get the cards they need to make the deck they want. The top tier competitive decks contained a median number of 20 Common, 12 Uncommon, 29 Rare, and 4 Mythic cards. Despite the fact that each pack has a guaranteed distribution of cards, with the exception of the 1 in 7 odds for the Rare to upgrade to Mythic, it is still a matter of playing the odds to acquire the specific card within each rarity tier needed for each deck in *Arena*. To mitigate the potential frustration and backlash from players,



*Arena* implements a system where some packs contain Wildcards players can redeem for specific cards of corresponding rarity.

Rare and Mythic wildcard odds increase for each pack until one is obtained, after which the odds reset. There are a handful of other ways to earn wild cards, such as the “Vault”, through which players earn progress towards rewards for every copy of a common or uncommon card they receive after their fourth copy. Players need to accrue 1000 vault points and receive 1 for each common and 3 per uncommon. The Vault always rewards 1 Mythic Wildcard, 2 Rare Wildcards, and 3 Uncommon Wildcards.

By using Wildcards and various in game reward mechanisms players are theoretically able to play the game without putting money into the platform. This, as one can anticipate, is not easily done and puts players at a disadvantage when compared to players who have purchased booster packs. *Hearthstone* is possibly more forgiving to players than *Arena* as it allows them to “disenchant” cards from their collection deleting them in exchange for dust, the currency used to create new cards. In their study they found that “For a deck with a cost of 9,000 dust and the assumed 100 to 110 dust per card pack, the expected cost range between \$100 and \$128” (Tregel et al., 2020, p. 187). In their analysis of *Hearthstone*, Tregel et al note that the cost in in game resources needed to create a competitive 30 card deck amounts to about four months of extreme saving and maximizing daily in game currency earnings through quests. The connection to draw here is that these digital card game platforms are designed to encourage players to buy into the platform in order to avoid the arduous grind for the digital items they need.

However, even the act of playing without spending money on the platform generates value for the platform. Whitson and French identify what they call Analytic Productivity in the

ways that even free play generates direct and indirect revenue streams for developers by using “collected data to profile and channel player behavior towards consumption” and accessing players’ social networks “for targeted advertising and other interventions, such as predictions on how to alter the game to ‘convert’ free players into paying players” (Whitson & French, 2021). This is also contingent on what the gambling machine industry refers to as “time-on-device” which increases the likelihood of players buying into the platform. In her analysis of the machine gambling industry Natasha Dow Schüll relays the ways that machine designers use player data to fine tune the hit rates for various machines in such ways that players are more inclined to stay on the machine (Schüll, 2014). These strategies are reflected in the way that Wizards of the Coast uses analytic data about player habits to refine the algorithms used to change the odds of getting certain kinds of cards from booster packs as well as the rate at which players receive individual card rewards based on the number of games played, the amount of in game currency given by the daily and weekly objectives, and, perhaps a bit conspiratorially, matching players who have invested large amounts of money against players who play primarily for free. All of this is designed to keep free players invested in the game while subtly encouraging them to buy cards and to convince paying players that their investments pay off so they will continue to put money into the platform.

### Proxies, Aura, Authenticity

A result of cards becoming ineligible for official competitive play, players have developed a set of communal practices that involve creating and maintaining alternative formats

for playing *Magic* so they can continue to use cards they already own (Švelch, 2016). Many of these formats have since been sanctioned and supported by Wizards of the Coast to the point where they are producing preconstructed decks or reprints of cards that are staples of these formats to decrease the cost of entry. Wizards of the Coast also works in conjunction with the subcommunities that participate in these alternate formats to develop a centralized body for standardizing the rules and list of cards banned from play so that the format remains balanced (Švelch, 2016). These formats are supported as they are perceived to add additional value to the *Magic: The Gathering* Brand. The drawback, however, is that these alternative formats have garnered a large amount of support and popularity within the community causing the value of particularly powerful cards, such as Force of Will, remain stable or increase based on their compatibility within these formats. While this reciprocity between Wizards of the Coast has been mutually beneficial, the desire for intervention (Trammell, 2013) and the cost to play has led to grey market and underground card modifications and unofficial “proxy” cards.

The rising cost of format staples has led to the practice of using stand in proxies in place of authentic cards. While authentic *Magic* cards are required for events officially sanctioned by Wizards of the Coast, the majority of *Magic* players are unlikely to compete in events larger than ones hosted at their local game stores where the enforcement of authenticity is at the discretion of the event organizer. Many games of *Magic* occur in casual environments where members of the community are less likely to be bothered by players using proxies. The issue arises when fannish community practices, such as the creation of altered cards or proxies with custom art run afoul of the copyright holders (Trammell, 2013). With similar practices like card alters, where artists expand an authentic card’s art beyond its borders, Wizards of the Coast has generally been

willing and able to turn a blind eye to these kinds of underground assets. The complication of legal agreements with artists themselves requires Wizards of the Coast to police fan production emerging from the community. As Jan Švelch observes, the emergence of a cottage industry that allows players to produce value through engaging with the hobby can negatively impact the prices of individual cards sold by secondhand retailers as well as booster packs and preconstructed decks sold by Wizards of the Coast. As the Stewards of *Magic*, Wizards of the Coast is obligated to discourage the use of inauthentic cards, yet also curates a reserved list of cards that will not be reprinted for the sake of maintaining stable market prices to preserve the image of *Magic* as a potential investment opportunity for players. (Švelch, 2016). The reserved list however, proved to be an unpopular move as it “initially decimated secondary market prices” (T. Chalk, 2017, p. 178). In his case study of the legal ambiguity of card alters, Aaron Trammell writes:

“MTG, and all other collectable card games, are clear examples of a game space which should be regulated by consumer protection laws because of the ways in which they have clear and healthy second market economies... The problem with this case is its inherent legal ambiguity, which allows WoTC (who occupy a position of power) to have their cake and eat it too. On the one hand, they hold an ambiguous set of contractual obligations... on the other hand the community related to alter art strengthens their brand and including so provides an ambiguous sense of profit” (Trammell, 2013).

The grey market aesthetic exists as a way for players to customize the aesthetic experience of playing *Magic*, while also attending to the monetary costs associated with playing. This grey market causes a tension between Wizards of the Coast and their community as it is important to

encourage players to continue playing the game even if the tacit allowance of non-official cards and accessories is at odds with their overall strategy for generating profit.

In light of this tension between Wizards of the Coast and the presumption engendered by fan created card modifications, proxies, and card alters a kind of black and grey market aesthetic emerges. The grey market aesthetic describes the aesthetic and affective nature of community practices as they pertain to modifying components or creating DIY versions of entire games. In analog game spaces this can be homemade “print and play” copies of games made from scraps of paper taped over playing cards alongside handfuls of loose coins. This can also look like 3D printed components replacements ordered from third-party manufacturers. This is no different in *Magic* communities where proxy cards can range from scraps of paper stuffed into card sleeves, prints of various quality glued over less valuable *Magic* cards, or high quality proxies with alternate art purchased online yet are still less expensive than authentic versions.

This brings to light concerns about authenticity when it comes to *Magic* cards. In particular in the way that *Magic* cards function as both ludic and visual objects. These two facets of *Magic* cards are interrelated yet often treated as separate, in that the so called authenticity of a card is dependent on the contexts in which it is being used. Previously I have discussed the card as a ludic object, something that serves to facilitate playing the game (see chapter 2), but this is not something unique to authentic cards. As long as it is accepted in the context of a friendly game, for example, the “Drake Meme” version of Force of Will functions the exact same as an authentic version printed by Wizards of the Coast. In a ludic sense, the cards denote permission to perform an action in the context of the game. Meanwhile, authentic cards as visual and

material objects are imbued with a sense of aura by virtue of being printed on a press consecrated by Wizards of the Coast.

Aura, per Walter Benjamin, describes the relationship to an objects passage through time and space (Benjamin, 1936). Authenticity is derived from an objects' aura, a function of its history as "the past in which they originated is studied in order to prove their survival genuine" only after which the 'line of descent can be certified" (Berger, 1997, p. 21). In the age of reproduction Berger argues that aura and authenticity are now functions of the market value of an item (Berger, 1997). The replacement of aura with market value is demonstrative of the mechanism of capture which aims to conflate the two within the regime of authenticity in the case of *Magic* cards this history is both in the object's production and acquisition. Though perhaps it is more accurate to say that it is in the mass reproduction of a card through a specific means is what gives *Magic* cards their authenticity. This is because there is never truly an "original authentic" *Magic* card, unless we are to count the numerous iterative versions that are made with hand scrawled notes, filler images, and printer paper. The production of a *Magic* card comes together from the disparate machines of Wizards of the Coast's *Magic: The Gathering* design and development teams that see the mechanical ludic object married to the visual object. Once digitally combined this is sent off to the printer where numerous copies of the card are sorted into packs and sent to the market. Rather than being a unique object, *Magic* cards are recreated and reproduced divorced from the place and time of their production. That is to say, an authentic *Magic* card is a distillation of something that existed in a transient ephemeral phase until it was solidified through production. Considering again the comparison of *Magic* cards to the mechanized reproduction of a work of art, "the uniqueness of the original

now lies in it being the original of a reproduction... its first meaning is no longer to be found in what it says, but in what it is" (Berger, 1997, p. 21). A copy of Force of Will is authentic, not because it is a unique object, rather because it is Force of Will, a card printed by Wizards of the Coast and used to play *Magic: The Gathering*. However, as an object used in analog play, it holds no particular authority outside of the ritual of Wizards of the Coast sanctioned play. However, in the context of the game, the card exists as a vehicle for information to be parsed during the algorithm of play. Its meaning is transmissible within the database of the game's turn. In the case of a proxy Force of Will, the identification of the card as a data object with a specific effect in play is enough to render authenticity unnecessary for the sake of playing *Magic*. The reason that proxy cards are able to exist at all is because it is not the visual or material properties of a *Magic* card that make it function. Instead, it is the relationship of the card's instructions, its information, to *Magic: The Gathering* and its rules. The ludic properties of the card carry no special authority in themselves.

Because proxies and authentic cards both represent the same information, the authenticity must be established another way. Aura as a function of passing through space and time is replaced by a *Magic* card's market value as a Wizards of the Coast product. Traditionally the value of the image as a commodity is dependent upon its rarity and is affirmed by market price (Berger, 1997) and the existence of *Magics* secondary market affirms *Magic* cards as a commodity to be bought and sold. However, this is where the property of the contingent commodity to be shaped by the needs of the platform evince a mechanism of capture. An authentic *Magic* card and a proxy version provide the same functionality within the context of playing *Magic*. The difference being is that the Market value of the authentic card is justified

based upon its lineage as being produced by Wizards of the Coast. Authentic *Magic* cards become something of a status symbol which, for players imparts a level of social capital and for Wizards of the Coast ensures continued player investment in their game. This authenticity also ensures that the card can be used in officially sanctioned events, a rule enforced by Wizards of the Coast as a necessary action to sell their products. The comparison of the authentic card and the proxy card is a mechanism of capture by which the comparison for value is entirely contingent on the ability for aura to remain intact across the reproducibility. In this example aura comes from the locus of production of the reproduction, rather than any semblance of an original object. This perspective applied to *Magic* cards points out the degree to which the value of the cards and *Magics* mechanism for extracting capital hinges on the ability to trace cards' lineage back to Wizards of the Coast as the nexus of their production.

The relationship between Wizards of the Coast and the fan communities engaged in these grey market activities fosters an “increased sense of intervention. Whilst at one point companies were able to turn a blind eye to underground fan practices such as card alteration, they are now forced to recognize the practices of fan communities in their totality” (Trammell, 2013). The difference is that because proxies are produced and signaled explicitly as not authentic, rather than modifications of authentic cards, they can be excluded from sanctioned play, and exist apart from the secondary market. Proxies have both the effect of making it cheaper to play *Magic* and also have control over the visual aesthetic of one's deck. As a product of the grey market aesthetic proxies do not have an effect on the market price of authentic cards because Wizards of the Coast has managed to maintain a sense of aura around their cards. An authentic card has value because it is produced by Wizards of the Coast and can be used in official events.



The grey market aesthetic demonstrates the capacity for cottage industries within the *Magic: The Gathering* ecosystem to produce alternative approaches to the affective experiences of play through fannish production and prosumption. However, in adapting analog *Magic* to a digital platform, such as arena, Wizards of the Coast creates a closed ecosystem which sections off this part of the play experience from the larger community assemblages. In paper *Magic*, the end result of modified cards puts *Magics* modders and contracted *Magic* artists at odds, while “Hasbro collects revenue contingent on their social and intellectual labor” (Trammell, 2013). The dynamic changes in the move to digital. The same cosmetic items are available as content within the Arena platform, but they do not have to worry about the potential legal grey area that arises between the two groups. Even more so, they get the benefit of utilizing art that is already owned by Wizards of the Coast and can be implemented with a variety of visual effects that fall under the duties of technical artists under Wizards of the Coast’s employment. This also directs capital that would be spent on independent artists directly through to Wizards of the Coast with little complication. Card cosmetics in *Arena* mimic the grey market aesthetic of alters and proxies, by being visually unique versions of cards, but since you can’t bring them from the outside, this entire system is brought into Wizards of the Coast’s ecosystem making it more efficient way to direct the flows of capital from the community back towards Wizards of the Coast.

*Arena* remediates the grey market aesthetics of proxy cards and their ability for players to customize the visual aesthetics of their play experiences. Bolter and Grusin note that “remediation does not destroy the aura of a work of art; instead it always refashions that aura in another media form” (Bolter & Grusin, 1999, p. 73) and this becomes very apparent when you examine how cards in *Arena* are implemented. Remediating the form of the card in *Arena* is

important because it is how players make sense of their purchase within the digital platform. Representing the card makes it appear and feel like a discrete object which is being purchased. When in reality, they are collections of data that are easily transferable, becoming a hypermediated example of what Berger meant when he argued that the reproductions become information, or in the case of *Arena*'s cards, data. Remediation preserves the representation of the form of the card as a discrete commodity, while fundamentally changing the ontological properties of the card. There is a distinction between how the card exists for the player and how it exists for the computer. The card that appears to a player in the game is not a singular object, but rather one that is constantly being reproduced and discarded as its existence becomes necessary to visualize for the player. In *The Language of New Media*, Lev Manovich identifies the way that digital media distributes data through a database. A media object is then an interface used to navigate through the database in nonlinear ways and is narrativized as "the sum of multiple trajectories through a database" (Manovich, 2001, p. 227). There can be no authenticity for the cards because they are entirely divorced from their relationship through time and space as well as the material conditions of their production as a product of Wizards of the Coast.

What is left is the phenomenon of distance, which Benjamin identifies as an additional possible source of an object's aura (Benjamin, 1936). I want to draw attention to the relationship of distance as it manifests through remediation. That is to say the process of remediation plays with distance which is not physical. Instead, it is the perception of the gap between the interface, the user, and the perception there of. Immediacy is an attempt to close the distance between the interface and the user. *Arena* in its attempt to remediate the relationship between cards and their aura should easily be seen as a technological and managerial construct tasked with the mediation

of users relationship to the world (Steinberg, 2019). Because *Magic* cards are infinitely reproduceable, it is necessary to create an enclosed platform where the digitally mediated data object of the cards can be pitched as a reminiscent piece of the analog history of *Magic*. *Arena* accomplishes this by representing its interface as something familiar to the player, the table as a playing surface and, more importantly, the representation of the physical form of the cards.

The move that Wizards of the Coast pulls off with *Arena* is linking the platform and the ludic economy together using systems that players are already comfortable with in paper *Magic*, such as booster packs turned loot box. This is similar to previous approaches Wizards of the Coast has taken for their live service style digital games. For example, we see a similar structure in *Magic Duels*' approach to booster packs, however there was still a more viable way for players to receive booster packs through daily quests. *Magic: The Gathering Online*, which was released in 2002, allowed players to trade cards within the platform and even buy and sell cards using an in game currency called Tix. It is even possible to cash out of *MTGO* by either selling Tix on a real money trading marketplace or by taking advantage of the Redemption program which allows players to redeem full sets of cards – with certain limitations of course. The difference between these platforms and *Arena* is that *Arena* is under the direct purview of Wizards of the Coast and utilizes more aggressive monetization strategies that are common to the ludic platform economy. Each attempt at remediation describes a new regime of value that has been iterative until *Arena* was launched with all of the strength and capacity of the platform economy that has developed over the past decade combined with systems of capture taken directly from analog *Magic*.

By closing off the platform from community markets, *Arena* is able to preserve the possibility of selling contents which “hinges upon the bounding properties of platforms, the operational closure of “walled gardens” that prevent the free flow of digital files and allow for the monetization of digital content” (Steinberg, 2019, p. 31) Turning *Magic* into a closed circuit platform means that capital can never escape and is funneled directly to Wizards of the Coast, whereas in paper *Magic*, it circulates through the community , particularly through the secondary buying and trading market.

### Conclusion

*Arena* is designed to accelerate the extraction of capital from its player base. It relies on predatory practices that have always existed in some respects through analog games but have been “perfected” in the eyes of capitalism in their instantiations of digital adaptations. Wizards of the Coast has constructed a nearly perfect apparatus of capture through *Magic: The Gathering* and its successful transition to digital platforms. *Arena* seamlessly integrates the mechanisms of the ludic platform economy and the existing forms of capture. As we can see through the case study of *Arena*, remediating the object of the trading card and the booster pack as a mechanism for disseminating cards, the systems that determine value remain surprisingly intact. The difference is that through setting up microtransactions within the *Arena* platform, Wizards of the Coast is able to leverage the familiar elements of analog *Magic*, while bypassing community markets and associated practices in order to develop an assemblage of capture mechanisms which redirect capital in a purer way.

Through this it becomes apparent that Wizards of the Coast is continuing to experiment with ways to capture the flows of capital within game communities. Whether it is explicitly relying on the capture of fan labor to affecting the aesthetics of community practice for the sake of replicating this aesthetics within digital platforms, it is clear that the mechanisms of the ludic platform economy are continuing to emerge and proliferate throughout *Magic: The Gathering* as a transmedia property as it moves towards platformization on a broad scale. This analysis of *Arena* examines the way this has been perfected in the remediation and adaptation of *Magic: The Gathering* and is being replicated across the assemblage as a whole. Further research in this topic should look into the way that competitive play is used as a kind of coercive power through systems of abstract domination that make these mechanisms of capture possible.

## CHAPTER 5: CONCLUSION

Since beginning this project, *Magic: The Gathering* has continued to grow rapidly earning more than \$1 Billion in 2022 (Hasbro, 2023b) and is on track to bring in even more money for Wizards of the Coast and Hasbro posting a 16% increase in Q1 of 2023 compared to Q1 of 2022 (Hasbro, 2023a) and I believe this is due, in part, to the continued success of *Arena*. The success of *Arena* as an adaptation and the increasing number of digital board games and virtual tabletop platforms has made the study of analog to digital adaptation particularly prescient. This growth is indicative of a growing community of players who either primarily play online or use digital adaptations to augment their in person play sessions. *Magic: The Gathering* is a perfect lens to view the question of analog to digital adaptation because of the sheer number of attempts at adaptation that have occurred throughout its lifespan which have approached the task in a variety of ways. Not only do these adaptations of *Magic* allow us to compare different approaches to adapting the same property, but they also provide a lens to see how different approaches reflect trends in the analog game space.

Throughout this project I examined the way that adaptation has impacted *Magic: The Gathering* as a media platform and the effects that the translation to digital formats have impacted the way that players interact with the game and it's paratexts. The examination reveals the inexplicable connection between the analog and digital properties and the way that they are coconstitutive of the broader media experiences. In particular, the move to digital has a dramatic effect on how play is framed through the ludic, thematic, and economic lenses and has generally trended towards the commodification of the experience for the benefit of Wizards of the Coast. This work was supplemented by an archive of paratextual media such as trade magazines, online

articles, blog posts, and community created works. Combining these methods and analysis of the assembled materials, this dissertation sought to answer the following research questions:

1. How do the different historic approaches to creating digital adaptations of *Magic: The Gathering* change our understanding of the relationship between digital and analog platforms?
2. How are approaches to narrative systems in analog to digital adaptations of *Magic: The Gathering* reflected in how the thematic framework of the game has changed over time?
3. How are the economic models of *Magic: The Gathering* implemented within the platforms of Digital Games and how do analog to digital adaptations help us understand this relationship?

Together these questions put the relationship between digital and analog technologies into perspective and explore the way that both digital and analog domains continue to borrow from and influence each other's development.

#### Research Question 1

1. How do the different historic approaches to creating digital adaptations of *Magic: The Gathering* change our understanding of the relationship between digital and analog platforms?

This project began answering this question by first developing Adaptation Mapping as a method for examining and describing analog to digital adaptations of games in relation to their approaches to remediating the interface of the game components and the prioritization of either the ludic or thematic experiences of the original. The remediation axis is derived from Bolter

and Grusin's theory of remediation which describes the process of refashioning a media form within another medium. The remediation axis describes the degree to which an adaptation seeks to achieve immediacy or hypermediacy. Immediacy describes the desire to erase the interface completely, resulting in a transparency that hides the fact that an object is being remediated. This process relies on high fidelity representations of the original objects and the contexts where they make sense. In the case of *Magic: The Gathering*, this involves the representations of the cards and how the player interacts with them and how intuitive they are to move around the screen. Adaptations like *Arena* are particularly invested in hypermediacy as the familiarity of the interface is important for the appeal of the adaptation and how the engine functions on the back end. Hypermediacy on the other hand describes the degree to which the process of mediation is foregrounded. Adaptations that fall on this side of hypermediacy tend to ask players to enjoy the distance imposed by the interface. Platforms like *Spell Table* in particular, which uses augmented reality to allow players to play online using analog *Magic* cards, revels in its mediation. Similarly, *Tabletop Simulator* provides a hypermediated experience and allows replicates a high degree of physicality within its digital environment, though there is some clunkiness to the interface as a result of the context in which the platform was developed. It is also important to note that immediacy and hypermediacy cannot function without each other. The secret of immediacy is that it relies to some degree on hypermediation in order to smooth the disconnects in the interface and reduce the cognitive load of playing the game.

The Ludic/Thematic axis describes the degree to which an adaptation is primarily interested in adapting the ludic or thematic elements of a game. There are a number of *Magic* adaptations which include thematic elements which are integral to the way players both



understand and interact with the game. Adaptations like those found in the *Duels of the Planeswalkers* series draw on the thematic elements of *Magic* in order to frame the duels against recognizable characters. The selling point of these games is not only the possibility of playing *Magic* in a digital format, but also that you can play established characters from the storyworld of *Magic: The Gathering*. Other adaptations like the 1997 computer game *Shandalar*, not only include full digital implementations of *Magic: The Gathering* but also feature an additional mediating gameplay layer that situate their release in the context of digital gaming at the time. Still other adaptations jettison the ludic dimension all together, like *Magic: The Gathering Battlemage* and *Magic* legends and ask players to explore the world. The Ludic/Thematic axis describes both the experiences and the anticipated subject positions that emerge when playing an analog game.

Adaptation mapping can be used to describe the relationship between the original property and its digital adaptations as well as invite comparisons between different adaptations which highlights their approaches. This allows scholars studying analog to digital adaptation to identify the trends in different approaches and perhaps even draw conclusions about what elements of the original were important for the developers when approaching adaptation. Adaptation mapping gives us a vocabulary that is useful for examining the changes that occur when moving between analog and digital platforms. In particular, it allows us to see what elements that seem uniquely digital already exist within analog platforms and how the representations of these pieces change through the processes involved in developing an adaptation.

## Research Question 2

2. How are approaches to narrative systems in analog to digital adaptations of *Magic: The Gathering* reflected in how the thematic framework of the game has changed over time?

This second question was addressed by examining *Magics* narrative framework, how it functions algorithmically and mechanically in the game, and finally examining a key moment when the approach changed and is reflected in adaptations. The narrative frame for *Magic: The Gathering* positions players as powerful spellcasters known as Planeswalkers who engage in duels for dominance. This narrative conceit functions as both a marketing tool to engage players creatively and as the foundation of the conceptual metaphors that *Magic* relies upon in order to help players understand rules interactions. As a result, every game of *Magic* can effectively be read as a series of narrative moments that tell the story of a battle between two planeswalkers.

In the early days of *Magic*, the figure of the planeswalker was not only a stand in for the player, but also functioned as an avatar for the player within the world of *Magics* story. Further characterization occurred through the construction of a deck and the inclusion of specific cards which described the kinds of actions the player can take and what their avatar is doing in the context of the story. The importance of *Magics* narrative framework and the ability for players to construct stories around their games is indicated in the design discourse and in the language used for teaching *Magics* rules. The planeswalker as avatar was reenforced early adaptations of *Magic* like *Shandalar* placed the player as a character explicitly within the world. Additionally, the players as real life planeswalkers was supported by the Pro Tour which included promotional cards featuring prominent players.

However, this began to shift as the way players engaged with *Magic* as a game and as a narrative property. In 2007, Wizards of the Coast introduced their own Planeswalker characters to function as narrative actors. These planeswalkers became the central focus of *Magics* narrative efforts and individual games played by players began to be more about exploring possible interactions through play. The *Duels of the Planeswalkers* series of adaptations foreground this new approach to the planeswalkers, making them the central focus in the narrative play of the game. The *Duels* games also introduce decks that are specifically designed to characterize the planeswalkers themselves which the players can then play with, effectively playing as those characters. Meanwhile, *Arena* disregards the theme of *Magic* beyond the implied storytelling that occurs through playing individual games. Instead, the planeswalker characters are offered as cosmetic portraits for players to use and often appear as microtransactions within that platform. The planeswalkers became an important piece of *Magics* marketing strategy and the different games of *Magic* have begun to function as paratexts for the *Magic: The Gathering* as an expansive narrative property.

### Research Question 3

3. How are the economic models of *Magic: The Gathering* implemented within the platforms of Digital Games and how do analog to digital adaptations help us understand this relationship?

Through my study I engage the frameworks of capture and the ludic platform economy to examine the economic mechanisms that allow capital to flow through *Magic* historically and

how these mechanics are remediated into digital *Magic* adaptations such as *Magic: The Gathering Arena*.

Many of the features of the ludic platform economy were already extant within the ecosystem of analog *Magic: The Gathering*. One example is the *Magics* system of booster packs as a way for players to earn cards. This is replicated one to one in *Arena*'s platform but has fallen under scrutiny in the same way that the ludic economy's use of loot boxes has been. The difference is that in an attempt to extract the maximum amount of value from its players, *Arena* does not include a secondary market by which players are able to buy and sell cards thus increasing the impact of artificial scarcity. This has the effect of increasing the number of booster packs players must purchase in order to assemble competitive decks and furthers a reliance on the cost mitigation systems implemented in *Arena*.

Additionally, *Arena* bypasses systems for cost mitigation such as proxy cards which allow players to play analog *Magic* with unofficial versions of cards. Proxies are often used as a way for players to personalize the play experience through aesthetic alterations of card art. The creation of alters and proxies are also a common way players engage in fan labor related to the *Magic* hobby. The use of proxies and altered cards created a grey market aesthetic for the *Magic* community that signaled specific kinds of engagement. *Arena* coopts this engagement through the introduction of cosmetic microtransactions that allow players to similarly change the visual appearance of their digital cards, effectively imitating the grey market aesthetics within the digital platform. However, rather than returning to the community, capital generated in this way is captured by Wizards of the Coast and imbued with a sense of both authenticity and the

transgressive affects engendered by the grey market of analog *Magic*. *Arena* exacerbates the question of value for digital goods by remediating the aura which gives *Magic* cards a sense of authenticity. The ownership of cards in *Arena* does not give players discrete objects, instead cards are stored as data which can be replicated as many times as necessary. The remediation of the form of the card is important in the illusion of value and acts as a mechanism of capture. The mechanisms that define the ludic platform economy already exist in a number of forms. The process of adaptation allows digital platforms to build them into the walled in ecosystems that form the apparatus of capture. Adaptations such as *Arena* coopt the aesthetic experiences of analog games, and trading card games in particular, because the forms of monetization capital extraction can be implemented in ways that are familiar to players. This makes a platform such as *Arena* a nearly perfected version of the digital ludic economy.

### Implications

In platform studies and game studies broadly, there is a tendency to focus on the purely computational elements over the human aspect of a platform. Focusing on the purely digital elements of computational platforms ignores the multitudinous forces pushing from every side. It is important to expand the notion of what gets to count as part of the platform. This work provides a way to discuss different dimensions of adaptation and how approaches to adaptation reflect the broader changes in the cultural milieu of an object. In particular, as analog to digital adaptation continues to grow it is important to consider the relationship between the analog and digital spaces and the broader contexts they function within. Wizards of the Coast has shown its

continued and increasing desire to aggressively police its community for the sake of keeping its systems of capture intact. A current and developing example of this at the time of writing involves the YouTube channel Oldschoolmtg, a channel that features unboxings and pack openings of *Magic: The Gathering* products. The event in question begins with Oldschoolmtg purchasing what he believed was a box of collector's booster packs for the newest MTG set, *March of the Machines*. What he received from the local game store was actually a collector box for *March of the Machines: Aftermath*, a so-called "mini set" supposed to be a follow up both mechanically and narratively to the original *March of the Machines* set. The mistake is understandable as the products have similar names and similar iconography and someone who is only passingly familiar with *Magic*, as Oldschoolmtg says the owner of the local store focuses on other trading card games like *Pokémon TCG* and *Yu-Gi-Oh*, could easily have mistaken a product received prior to the official release date for the actual *March of the Machines* products. Fans estimate that about 75% of the contents for the new set had been spoiled by the leak (Parlock, 2023). Following the videos being widely circulated through the *Magic: The Gathering* community and the leaks being collated on various forums and social media sites, Oldschoolmtg posted a follow up video detailing Wizards of the Coast's response to the accidental leaks. According to the video Wizards of the Coast employed the infamous independent police force and private security contractor, the Pinkerton agency. In the video Oldschoolmtg describes an aggressive and intimidating interaction with the Pinkerton agent who threatened both Oldschoolmtg and his wife with prison and then confiscated the product that was allegedly stolen. Following the incident, Oldschoolmtg was provided with the contact information for a representative from Wizards of the Coast who seemed recalcitrant and condemned the

Pinkerton's approach (oldschoolmtg, 2023). Over the intervening weeks there has been a flurry of online discourse about whether Oldschoolmtg was right to post the

Wizards of the Coast is notorious for being protective of prerelease products and cracking down on anyone who leaks content prior to official release. Most notably they suspended pro tour players, Guillaume Matignon, Guillaume Wafo-Tapo, Martial Moreau, and David Gauthier in 2011 for releasing a PDF of the entirety of the *New Phyrexia* set. Community members speculate that the reason behind the extreme actions taken by Wizards of the Coast is the result of anticipated lost traffic through the official announcements, where information is carefully controlled and dispensed (JACO, 2011). I am inclined to agree with the community's assessment as web traffic is an indicator of potential interest in a product and the ability for Wizards of the Coast to control information through official outlets marks a specific strategy in the management of the apparatus of capture built into *Magic: The Gathering*. It also signals the continuing turn towards an antagonistic relationship towards fan creators that has been the public face of Wizards of the Coast leading into the 30<sup>th</sup> year of *Magics* lifespan, beginning in January 2023 when they announced and subsequently retracted an incredibly unpopular change to *Dungeons & Dragons* third party license agreement. This is all indicative of the change in the relationship between Wizards of the Coast and the various communities that make up its products constituency, as noted by Aaron Trammell. This issue with Oldschoolmtg and the Pinkertons is just one example of Wizards of the Coast violently reasserting their control and leaving no doubt about who is in charge of *Magic: The Gathering*.

This active policing of *Magic: The Gathering*'s community is reflected in the increasing attempts to enclose control over the ways that *Magic* is played, particularly within the digital

realm. Increasingly pushing *Arena* as the preferred platform for playing *Magic* digitally enforces a specific kind of competitive play that privileges mastery of the mechanical elements which further divorces the act of playing from the narrative framework which *Magic* established at launch. Having the ludic and thematic elements of *Magic* separate as they have been a strategy which drives strong brand recognition and crystallizes what it means to play *Magic*. On the other hand, the thematic elements of *Magic* have turned towards functioning as a transmedia property in the same way that Marvel has expanded the ways that players can interact with its characters in an attempt to continuously drive fans to purchase merchandise. In *Magic*, this not only includes collectables, music albums, and other forms of media, it also includes cosmetic items which allow players to tailor their aesthetic experiences during play.

The examination of adaptation demonstrates the kinds of experiences that are important to the developers. In particular it is clear that the more recent adaptations are attempts at remediating the apparatus of capture that is established within analog *Magic* through the ludic economic elements and a reliance on the paratextual framework which draws players towards other media within the franchise of *Magic: The Gathering*. The implications of this describe a fairly cynical landscape for the analog games industry as it continues to crossover with the digital games industry. The established forms of generating revenue are more effective through digital platforms and further centralize capital that otherwise would flow through the broader ecosystem and communities which support analog play.



### Limitations

There were limitations in this study as there was no data collected directly from active *Magic: The Gathering* players. The inclusion of surveys, interviews, or some form of ethnographic observation would have added additional weight to the claims and conclusions made about how players interact with the game and its various adaptations. Additionally, social media data was mostly excluded from examination and would have been another mechanism for foregrounding the human player element of this study. Similarly, there was no direct contact between me and the developers of any of these adaptations. Interviews may have provided additional insight into the thought processes for each adaptation that would benefit the arguments made.

The scope of this project limited the number of adaptations I was able to engage with in depth. As indicated in chapter 1, there are a large number of adaptations that all function in drastically different ways. The adaptations I chose were all intended to serve a specific purpose within this project. However deeper analysis of other adaptations would have provided additional insight into the subject. Additionally, I would have liked to engage further with fan studies literature in order to better analyze the effect of transmediation on *Magic* and its adaptations.

Lastly, this work comes at a pivotal time in research on *Magic: The Gathering* and much literature which would have been useful for consideration was in the publication pipeline.

Among this includes the edited collection *Beyond the Deck: Critical essays on Magic: The Gathering and Its influence* and Cameron Kunzelman's forthcoming monograph on *Magic: The Gathering* which is intended to include a deeper historical look into analog *Magic* and the management of the property, and Andrei Zanesco's dissertation on thematic construction of antiquity in *Magic*. This would have been instrumental in fleshing out the early history of *Magic*.

This limitation was mitigated by the kindness of scholars such as Matt Knutson and Jan Švelch, who were kind enough to provide preproduction copies of their essays, and Cameron and Andrei who discussed my research with me on numerous occasions.

### Further Research

There are several directions for further research on this topic. The issue of digital platforms for analog gaming has grown tremendously over the past several years and the economic, social, and technical dimensions of this shift has had an impact on the analog games industry. There are numerous avenues for in depth scholarship on each of these elements in particular. Adaptation mapping will provide a useful tool for examining the different approaches to adaptation so that the things that are changed, lost, added, or preserved can be discussed within any of these contexts. The growing impact of transmedia franchising offers an exceptional requires further study as Wizards of the Coast's business models appear to be doubling down on increasing the general recognizability of their various gaming properties. Additionally, the impact of *Magic: The Gathering*'s narrative efforts cannot be understated in the realm of both *Magic* fandom and the development team's continued approach to designing digital *Magic* adaptations.

Other future work that is of interest to me are the mechanisms of capture that emerge through analog games and are adapted into digital gaming spaces. In particular, I am interested in how the competitive and social aspects of *Magic: The Gathering* produce a specific style of play that is geared towards continued optimization of play. This kind of productive play is exacerbated through the implementations of algorithmic enforcement mechanisms that I

observed in many of the adaptations I engaged with in this study. This can be read through a lens of productive play, in particular the framework James Hans lays out in *The Play of the World* when discussing the way that play is coopted and instrumentalized towards a specific end (Hans, 1981). In the case of *Magic: The Gathering*, this is ultimately an endeavor towards optimally correct play that is organized around affects of Winning and playing “correctly”.

Though only briefly theorized in this project, the continued development of algorithmic aesthetics in both gaming and technology research in general can be examined in relation to the histories and parallel development in analog games. In particular, the process of adaptation reveals the way that capital flows through these platforms and produces specific approaches to play that are seen as valuable to the platform holder and as such are encouraged through the affordances of adaptations.

## REFERENCES

- Aagaard, J., Knudsen, M. E. C., Bækgaard, P., & Doherty, K. (2022). A Game of Dark Patterns: Designing Healthy, Highly-Engaging Mobile Games. *CHI Conference on Human Factors in Computing Systems Extended Abstracts*, 1–8.  
<https://doi.org/10.1145/3491101.3519837>
- Altice, N. (2014). The Playing Card Platform. *Analog Game Studies*.  
<http://analoggamestudies.org/2014/11/the-playing-card-platform/>
- Alvis, A. (2022, January 3). Shuffle Your Library: The Book History of *Magic: The Gathering*. *Allie "Book Historia" Alvis*. <https://www.bookhistoria.com/blog/shuffle-your-library-the-book-history-of-Magic-the-gathering>
- Anable, A. (2018). *Playing with Feelings: Video Games and Affect*. U of Minnesota Press.
- Apperley, T., & Parikka, J. (2018). Platform Studies' Epistemic Threshold. *Games and Culture*, 13(4), 349–369. <https://doi.org/10.1177/1555412015616509>
- Arnaudo, M. (2019). Analog Game History. *ROMchip*, 1(1), Article 1.  
<https://romchip.org/index.php/romchip-journal/article/view/65>
- Balsamo, A. M. (2011). *Designing culture: The technological imagination at work*. Duke University Press.
- Bellomy, I. (2017). What Counts: Configuring the Human in Platform Studies. *Analog Game Studies*. <http://analoggamestudies.org/2017/03/what-counts/>
- Benjamin, W. (1936). The Work of Art in the Age of Mechanical Reproduction. In M. G. Durham & D. M. Kellner (Eds.), *Media and Cultural Studies: Key Works* (pp. 18–40). Blackwell.

- Benson-Allott, C. (2016). Platform. In H. Lowood & R. Guins (Eds.), *Debugging Game History: A Critical Lexicon* (pp. 343–349). MIT Press.  
<http://ebookcentral.proquest.com/lib/ucf/detail.action?docID=4698613>
- Berger, J. (1997). *Ways of seeing* (37. pr., 1. publ. 1972 by British Broadcasting Corp. and 1977 by Penguin Books). British Broadcasting Corp.
- Bestor, N. (2019). *Playing in licensed storyworlds: Games, franchises, and fans* [Application/pdf]. <https://doi.org/10.26153/TSW/3277>
- Bestor, N. (2021). Making and remaking the Galaxy Far, Far Away: Transmedia worldbuilding and Star Wars: The Roleplaying Game. *Science Fiction Film and Television*, 14(2), 145–168.
- Beyer, D. (2010, May 26). What Is Flavor? *Savor The Flavor*.  
<https://Magic.wizards.com/en/articles/archive/savor-flavor/what-flavor-2010-05-25>
- Blevins, T. (n.d.). *Magic: The Gathering - BattleMage Review*. *GameSpot*. Retrieved August 2, 2021, from <https://www.gamespot.com/reviews/Magic-the-gathering-battlemage-review/1900-2542419/>
- Blom, J. (2021). Characters in Fire Emblem Three Houses: A Ludo Mix Perspective. *Transactions of the Digital Games Research Association*, 5(2).  
<https://doi.org/10.26503/todigra.v5i2.117>
- Bolter, J. D. (2001). *Writing Space: Computers, Hypertext, and the Remediation of Print*. Routledge.
- Bolter, J. D., & Grusin, R. A. (1999). *Remediation: Understanding new media*. MIT Press.

- Boluk, S., & LeMieux, P. (2017). *Metagaming: Playing, Competing, Spectating, Cheating, Trading, Making, and Breaking Videogames*. U of Minnesota Press.
- Boor, J. (n.d.). *Magic: The Gathering - Battlemage - IGN*. Retrieved August 2, 2021, from <https://www.ign.com/articles/1997/09/18/Magic-the-gathering-battlemage>
- Booth, P. (2015). *Game Play: Paratextuality in Contemporary Board Games*. Bloomsbury Publishing USA.
- Booth, P. (2021). *Board games as media*. Bloomsbury Academic.
- Brady, A., & Prentice, G. (2021). Are Loot Boxes Addictive? Analyzing Participant's Physiological Arousal While Opening a Loot Box. *Games and Culture, 16*(4), 419–433. <https://doi.org/10.1177/1555412019895359>
- Brock, A. L. (2019). *Distributed blackness: African American cybercultures*. New York University Press.
- Brock, T., & Johnson, M. (2021). The gamblification of digital games. *Journal of Consumer Culture, 21*(1), 3–13. <https://doi.org/10.1177/1469540521993904>
- Buckland, P. (2009, June 17). Duels of the Planeswalkers: The *Magic* Engine [Archive]. *Magic Magazine*. <https://web.archive.org/web/20090619234532/http://www.wizards.com/Magic/Magazine/Article.aspx?x=mtg/daily/feature/43c>
- Buehler, R. (1999). *The official classic sixth edition game strategy guide: Practical playing tips & tactics*. Wizards of the Coast.
- Carnes, S. F. (1994a, Fall). House Rules: New Ways (and Some Old Ways) To Play *Magic*. *The Duelist, 3*, 20–22.

- Carnes, S. F. (1994b, Fall). Methuselah Managment. *The Duelist*, 3, 36–38.
- Carpenter, B. E., & Doran, R. W. (1977). The other Turing machine. *The Computer Journal*, 20(3), 269–279. <https://doi.org/10.1093/comjnl/20.3.269>
- Carter, C. (2021a, January 18). The state of *Magic: The Gathering* Arena in 2021. *PC Gamer*. <https://www.pcgamer.com/the-state-of-Magic-the-gathering-arena-in-2021/>
- Carter, C. (2021b, February 9). *Magic: The Gathering and Monopoly had their “biggest year ever” in 2020, Hasbro says*. Dicebreaker. <https://www.dicebreaker.com/companies/hasbro/news/Magic-the-gathering-monopoly-record-sales-hasbro-earning-report>
- Cavotta, M. (2005, December 21). Snack Time with Vorthos. *Taste the Magic*. <https://Magic.wizards.com/en/articles/archive/snack-time-vorthos-2005-12-21>
- Chalk, A. (2018, June 3). A Chronology of Dungeons & Dragons in Popular Media. *Analog Game Studies*. <http://analoggamestudies.org/2018/06/telling-stories-of-dungeons-dragons-a-chronology-of-representations-of-dd-play/>
- Chalk, T. (2017). *Generation decks: The unofficial history of gaming phenomenon Magic: The Gathering*. Solaris.
- Churchill, A., Biderman, S., & Herrick, A. (2019). *Magic: The Gathering* is Turing Complete. *CoRR*, abs/1904.09828. <http://arxiv.org/abs/1904.09828>
- Conditt, J. (n.d.). *League of Legends tops MMO revenue list, Hearthstone No. 10*. Engadget. Retrieved February 22, 2022, from <https://www.engadget.com/2014-10-23-league-of-legends-tops-mmo-revenue-list-hearthstone-no-10.html>

- Consalvo, M. (2009). There is No *Magic Circle*. *Games and Culture*, 4(4), 408–417.  
<https://doi.org/10.1177/1555412009343575>
- Crutcher, P. A. (2017). *Magic: The Gathering. Americana : The Journal of American Popular Culture, 1900 to Present*, 16(1). <https://www.proquest.com/scholarly-journals/Magic-gathering/docview/1983157324/se-2>
- Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. Bloomsbury Academic.
- Drummond, A., Sauer, J. D., Ferguson, C. J., & Hall, L. C. (2020). The relationship between problem gambling, excessive gaming, psychological distress and spending on loot boxes in Aotearoa New Zealand, Australia, and the United States—A cross-national survey. *PLOS ONE*, 15(3), e0230378. <https://doi.org/10.1371/journal.pone.0230378>
- Elliott, S. A., & Mason, D. S. (2003). Emerging Legal Issues in the Sports Industry: Are Trading Cards a Form of Gambling? <sup>1</sup>. *Journal of Legal Aspects of Sport*, 13(2), 101–120.  
<https://doi.org/10.1123/jlas.13.2.101>
- Engelberg, J., Thompson, L., & Williams, J. (2020). Stock market anomalies and baseball cards. *Financial Review*, 55(3), 461–479. <https://doi.org/10.1111/fire.12223>
- Fickle, T. (2019). *The race card: From gaming technologies to model minorities*. New York University Press.
- Fine, G. A. (1983). *Shared Fantasy: Role Playing Games as Social Worlds*. University of Chicago Press.



- Forster, D. (2019, July 8). MTG continues to make millions for Hasbro despite MTG Arena problems. *Dot Esports*. <https://dotesports.com/mtg/news/mtg-continues-to-make-millions-for-hasbro>
- Foucault, M. (1975). *Discipline and Punish: The Birth of the Prison*. Knopf Doubleday Publishing Group.
- Galloway, A. R. (2012). *The interface effect*. Polity.
- Garfield, R. (1995). Notes from The Designer. In Wizards of the Coast (Ed.), *Magic: The Gathering: The pocket player's guide* (pp. A1–A13). HarperCollins.
- Giddings, S., & Harvey, A. (2018). Introduction to Special Issue Ludic Economies: Ludic Economics 101. *Games and Culture*, 13(7), 647–651.  
<https://doi.org/10.1177/1555412018755912>
- Gillespie, T. (2010). The politics of ‘platforms.’ *New Media & Society*, 12(3), 347–364.  
<https://doi.org/10.1177/1461444809342738>
- Gray, K. L. (2020). *Intersectional tech: Black users in digital gaming*. Louisiana State University Press.
- Hans, J. S. (1981). *The play of the world*. University of Massachusetts Press.
- Hansen, M. (2012). *Cinema and experience: Siegfried Kracauer, Walter Benjamin, and Theodor W. Adorno*. University of California Press.
- Hardin, C. F. (2021). *Capturing finance: Arbitrage and social domination*. Duke University Press.

Hasbro. (2023a). *Hasbro Reports First Quarter 2023 Financial Results | Hasbro, Inc.* (Q1 2023 Financial Report). <https://hasbro.gcs-web.com/news-releases/news-release-details/hasbro-reports-first-quarter-2023-financial-results>

Hasbro. (2023b, February 16). *Hasbro Reports Fourth Quarter and Full-Year 2022 Financial Results | Hasbro, Inc.* <https://hasbro.gcs-web.com/news-releases/news-release-details/hasbro-reports-fourth-quarter-and-full-year-2022-financial>

*Hasbro (HAS) Q4 2021 Earnings Call Transcript.* (2022, February 7).

<https://www.fool.com/earnings/call-transcripts/2022/02/07/hasbro-has-q4-2021-earnings-call-transcript/>

Hasbro, R. P. (2021). *Hasbro Q4 and 2020 Earnings Report* (p. 42) [Earnings Report]. Hasbro.

Hutcheon, L. (2006). *A Theory of Adaptation*. Routledge.

Isleib, B. (2012, August 7). You Are a Planeswalker. . . ? *Cool Stuff Inc.*

<https://www.coolstuffinc.com/a/brandonisleib-080712-you-are-a-planeswalker>

JACO. (2011, April 29). *WotC Suspends Guillaume Matignon & Guillaume Wafo-Tapo for New Phyrexia Leak – Eternal Central.* <https://www.eternalcentral.com/wotc-suspends-guillaume-matignon-guillaume-wafo-tapo-for-new-phyrexia-leak/>

Joseph, D. (2021). Battle pass capitalism. *Journal of Consumer Culture*, 21(1), 68–83.

<https://doi.org/10.1177/1469540521993930>

Knutson, M. (2023). “Wasn’t in the Cards: The Proto-Esport of Professional *Magic*.” In S.

Shelly (Ed.), *BEYOND THE DECK: critical essays on Magic*. MCFARLAND.

- Kromand, D. (2007, September). Avatar Categorization. *DiGRA - Proceedings of the 2007 DiGRA International Conference: Situated Play*. DiGRA International Conference 2007.  
<http://www.digra.org/wp-content/uploads/digital-library/07311.16435.pdf>
- Kunzelman, C. (2016). SUBJECTIVE AND AFFECTIVE ADAPTATIONS: REMEDIATION AND THE PLAYSTATION 2 VIDEOGAME. *Wides Screen*, 6(1), 17.
- LaLone, N. (2019). *A Tale of Dungeons & Dragons and the Origins of the Game Platform / Analog Game Studies*. <http://analoggamestudies.org/2019/09/a-tale-of-dungeons-dragons-and-the-origins-of-the-game-platform/>
- Limited Resources (Director). (2023, May 20). *Limited Resources 700 – Ryan Spain On Curating The MTGO Vintage Cube*.  
<https://www.youtube.com/watch?v=XCmPupbAXWg>
- Loring-Albright, G. (2022). *Analog Games on Digital Tabletops: A Media Microecology* [Doctor of Philosophy, Drexel University]. <https://doi.org/10.17918/00001168>
- Lowood, H. (2016). War Engines: Wargames as Systemes from the Tabletop to the Computer. In P. Harrigan & M. G. Kirschenbaum (Eds.), *Zones of control: Perspectives on wargaming*. The MIT Press.
- Magic: The Gathering Comprehensive Rules*. (2019). Wizards of the Coast.
- Manovich, L. (2001). *The language of new media* (8. print). MIT Press.
- Manovich, L. (2013). *Software Takes Command*. A&C Black.
- Martin, B. (2017, May 4). Using the Imagination: Consumer Evoking and Thematizing of the Fantastic Imaginary. *Bas Martin*. <https://basmartin.com/wp-content/uploads/2010/08/Martin-2004-JCR.pdf/>

- McCaffrey, M. (2019). The macro problem of microtransactions: The self-regulatory challenges of video game loot boxes. *Business Horizons*, 62(4), 483–495.  
<https://doi.org/10.1016/j.bushor.2019.03.001>
- Montfort, N., & Bogost, I. (2009). *Racing the Beam: The Atari Video Computer System*. MIT Press.
- Murray, J. (2020). More Than Just the Table: Analog Games as Computational Platforms. *International Conference on the Foundations of Digital Games*, 1–4.  
<https://doi.org/10.1145/3402942.3402974>
- Murray, J. (2021). SELL YOUR CARDS TO WHO: NON-FUNGIBLE TOKENS AND DIGITAL TRADING CARD GAMES. *AoIR Selected Papers of Internet Research*.  
<https://doi.org/10.5210/spir.v2021i0.11991>
- Nieborg, D. B., & Poell, T. (2018). The platformization of cultural production: Theorizing the contingent cultural commodity. *New Media & Society*, 20(11), 4275–4292.  
<https://doi.org/10.1177/1461444818769694>
- Noble, S. (2018). *Algorithms of Oppression: How Search Engines Reinforce Racism* (1 edition). NYU Press.
- oldschoolmtg (Director). (2023, April 22). *The Aftermath of The Aftermath ... Everything Is Gone! ... Magic The Gathering Discussion MTG MOM MAT*.  
<https://www.youtube.com/watch?v=bD9HRueI6Js>
- Papišta, Ž. (2022). Conceptual metaphor in trading card games: The case of Yu-Gi-Oh! *Review of Cognitive Linguistics*, 20(2), 504–529. <https://doi.org/10.1075/rcl.00120.pap>

- Parlock, J. (n.d.). *'Magic The Gathering' Had Its Best Financial Year Ever In 2020*. Forbes.  
Retrieved February 17, 2022, from  
<https://www.forbes.com/sites/joeparlock/2021/02/09/Magic-the-gathering-had-its-best-financial-year-ever-in-2020/>
- Parlock, J. (2023, April 20). *Most Of MTG's March Of The Machine: Aftermath Leaked In YouTube Box Opening*. TheGamer. <https://www.thegamer.com/Magic-the-gathering-mtg-march-of-machine-aftermath-leak/>
- Pearce, C. (2009). *Communities of play: Emergent cultures in multiplayer games and virtual worlds*. MIT Press.
- Pereira, C. (n.d.). Hearthstone Now Earns About \$20 Million Every Month—Report. *GameSpot*. Retrieved February 22, 2022, from <https://www.gamespot.com/articles/hearthstone-now-earns-about-20-million-every-month/1100-6429654/>
- Petrovskaya, E., Deterding, S., & Zendle, D. I. (2022). Prevalence and Salience of Problematic Microtransactions in Top-Grossing Mobile and PC Games: A Content Analysis of User Reviews. *CHI Conference on Human Factors in Computing Systems*, 1–12.  
<https://doi.org/10.1145/3491102.3502056>
- Phillips, A. (2020). Negg(at)ing the Game Studies Subject. *Feminist Media Histories*, 6(1), 12–36. <https://doi.org/10.1525/fmh.2020.6.1.12>
- @PlayHearthstone. (n.d.). *Hearthstone on Twitter: "BY THE POWER OF RAGNAROS, 30 million players have joined us by the hearth! Thanks for pulling up a chair! Http://t.co/3EiULtqJcb"* / Twitter. Retrieved February 22, 2022, from <https://twitter.com/PlayHearthstone/status/595619019593416704>

- Reward Distribution / Magic: The Gathering Arena.* (n.d.). *MAGIC: THE GATHERING.*
- Retrieved December 26, 2022, from <https://Magic.wizards.com/en/mtgarena/drop-rates>
- Rosewater, M. (2006, March 20). *Timmy, Johnny, and Spike Revisited.* *MAGIC: THE GATHERING.* <https://Magic.wizards.com/en/articles/archive/making-Magic/timmy-johnny-and-spike-revisited-2006-03-20-2>
- Rosewater, M. (2007a, May 7). *Melvin and Vorthos.* *MAGIC: THE GATHERING.* <https://Magic.wizards.com/en/articles/archive/making-Magic/melvin-and-vorthos-2007-05-07>
- Rosewater, M. (2007b, November 5). *Planeswalk on the Wild Side, Part I. Making Magic.* <https://Magic.wizards.com/en/articles/archive/making-Magic/planeswalk-wild-side-part-i-2007-11-05>
- Rosewater, M. (2018a, July 9). *Narrative Equity. Making Magic.* <https://Magic.wizards.com/en/articles/archive/making-Magic/narrative-equity-2018-07-09>
- Rosewater, M. (2018b, July 23). *Planeswalking Down Memory Lane. Making Magic.* <https://Magic.wizards.com/en/news/making-Magic/planeswalking-down-memory-lane-2018-07-23>
- Schüll, N. D. (2014). *Addiction by design: Machine gambling in Las Vegas.* Princeton university press.
- Schut, K. (2014). *Media Ecology.* In M. J. P. Wolf & B. Perron (Eds.), *The Routledge Companion to Video Game Studies* (pp. 205–208). Routledge.

- Schweizer, B. (2014). Platforms. In M. J. P. Wolf & B. Perron (Eds.), *The Routledge Companion to Video Game Studies*. Routledge.
- Schwiddessen, S., & Karius, P. (2018). Watch your loot boxes! – Recent developments and legal assessment in selected key jurisdictions from a gambling law perspective. *Interactive Entertainment Law Review*, 1(1), 17–43. <https://doi.org/10.4337/ielr.2018.01.02>
- Scott, S. (2010). The trouble with transmediation: Fandom’s negotiation of transmedia storytelling systems. *Spectator-The University of Southern California Journal of Film and Television*, 30(1), 30–34.
- Shaw, A. (2011, January). “He could be a bunny rabbit for all I care!”: Identification with video game characters and arguments for diversity in representation. *DiGRA - Proceedings of the 2011 DiGRA International Conference: Think Design Play*. DiGRA 2011. <http://www.digra.org/wp-content/uploads/digital-library/11313.28005.pdf>
- Sidloski, B., Brooks, G. A., Zhang, K., & Clark, L. (2022). Exploring the association between loot boxes and problem gambling: Are video gamers referring to loot boxes when they complete gambling screening tools? *Addictive Behaviors*, 131, 107318. <https://doi.org/10.1016/j.addbeh.2022.107318>
- Slizewski, T. (1999, February). Big Changes for *Magic Sixth Edition*. *InQuest Gamer*, 46, 20.
- Smith, G. (2015). An Analog History of Procedural Content Generation. *FDG 2015*, 6.
- Steinberg, M. (2019). *The platform economy: How Japan transformed the consumer Internet*. University of Minnesota Press.

- Stolee, M. (2023). From Boards and Chits to Circuit Boards and Bits. *Generation Analog 2021: Proceedings of Teh Gapletop Games and Education Conference*, 29–42.  
<https://doi.org/10.57862/FZB0-QG05>
- Sullivan, A., & Salter, A. (2017). A taxonomy of narrative-centric board and card games. *ACM International Conference Proceeding Series*, 1.
- Švelch, J. (2016). *Platform Studies, Computational Essentialism, and Magic: The Gathering*.  
<http://analoggamestudies.org/2016/07/platform-studies-computational-essentialism-and-Magic-the-gathering/>
- Tobin, S. (2015). Cocktail Cabinets: A Critique of Digital and Ludic Essentialism. *Analog Game Studies*. <http://analoggamestudies.org/2015/01/cocktail-cabinets/>
- Torner, E. (2018). Just (the Institution of Computer) Game Studies. *Analog Game Studies*.  
<http://analoggamestudies.org/2018/06/just-the-institution-of-computer-game-studies/>
- Trammell, A. (2013). *Magic Modders: Alter Art, Ambiguity, and the Ethics of Prosumption*. *Journal For Virtual Worlds Research*, 6(3). <https://doi.org/10.4101/jvwr.v6i3.7040>
- Trammell, A. (2019). Analog Games and the Digital Economy. *Analog Game Studies*.  
<http://analoggamestudies.org/2019/03/analog-games-and-the-digital-economy/>
- Trammell, A. (2010). *Magic: The Gathering* in Material and Virtual Space: An Ethnographic Approach Toward Understanding Players who Dislike Online Play. *The Proceedings of the Meaningful Play Conference*. Meaningful Play Conference 2010.
- Trammell, A., Waldron, E. L., & Torner, E. (2014). Reinventing Analog Game Studies. *Analog Game Studies*. <http://analoggamestudies.org/2014/08/reinventing-analog-game-studies/>



- Tregel, T., Schwab, M. C., Nguyen, T. T. L., Müller, P. N., & Göbel, S. (2020). Costs to Compete—Analyzing Pay to Win Aspects in Current Games. In M. Ma, B. Fletcher, S. Göbel, J. Baalsrud Hauge, & T. Marsh (Eds.), *Serious Games* (Vol. 12434, pp. 177–192). Springer International Publishing. [https://doi.org/10.1007/978-3-030-61814-8\\_14](https://doi.org/10.1007/978-3-030-61814-8_14)
- Turing, A. M. (1937). On Computable Numbers, with an Application to the Entscheidungsproblem. *Proceedings of the London Mathematical Society*, *s2-42*(1), 230–265. <https://doi.org/10.1112/plms/s2-42.1.230>
- Vella, D. (2013). It's a-me / Mario: Playing as a ludic character. *Proceedings of the Eighth International Conference on the Foundations of Digital Games*, 31–38.
- Wake, P. (2019). Token Gestures: Towards a Theory of Immersion in Analog Games. *Analog Game Studies*. <http://analoggamestudies.org/2019/09/token-gestures-towards-a-theory-of-immersion-in-analog-games/>
- Walsh, R. (2011). Emergent Narrative in Interactive Media. *Narrative*, *19*(1), 72–85. <https://doi.org/10.1353/nar.2011.0006>
- Wenger, É. (1998). *Communities of practice: Learning, meaning, and identity* (18th printing). Cambridge University Press.
- Whitson, J., & French, M. (2021). Productive play: The shift from responsible consumption to responsible production. *Journal of Consumer Culture*, *21*(1), 14–33. <https://doi.org/10.1177/1469540521993922>
- Williams, G., & Dreyfus, P. (1995). *The unauthorized strategy guide to the Magic, the Gathering card game*. Prima Pub.

- Wilson, N. (2015, July 8). *How Magic Duels: Origins is adapting to the evolution of the digital CCG*. PCGamesN. <https://www.pcgamesn.com/Magic-duels/how-Magic-duels-origins-is-adapting-to-the-evolution-of-the-digital-ccg>
- Wizards of the Coast (Ed.). (1994). *The Magic: The Gathering: Pocket players' guide*. Wizards of the Coast.
- Wizards of the Coast (Ed.). (1995). *Magic: The Gathering: The pocket player's guide*. HarperCollins.
- Zendle, D., & Cairns, P. (2018). Video game loot boxes are linked to problem gambling: Results of a large-scale survey. *PLOS ONE*, *13*(11), e0206767.  
<https://doi.org/10.1371/journal.pone.0206767>
- Zendle, D., Meyer, R., Cairns, P., Waters, S., & Ballou, N. (2020). The prevalence of loot boxes in mobile and desktop games. *Addiction*, *115*(9), 1768–1772.  
<https://doi.org/10.1111/add.14973>